

The



# CHEMIST AND DRUGGIST

Established 1859      28 Essex Street, Strand, London, W.C.2.      Registered as a Newspaper

No. 2758      DECEMBER 17, 1932      Annual Subscription (with  
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**Sore Throat Lozenges**

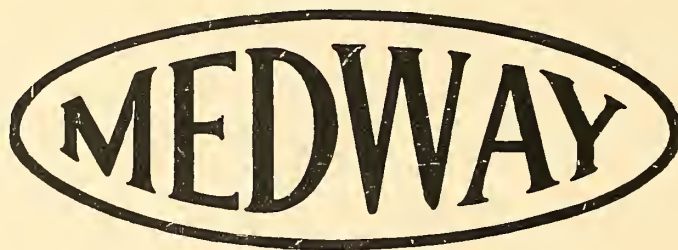
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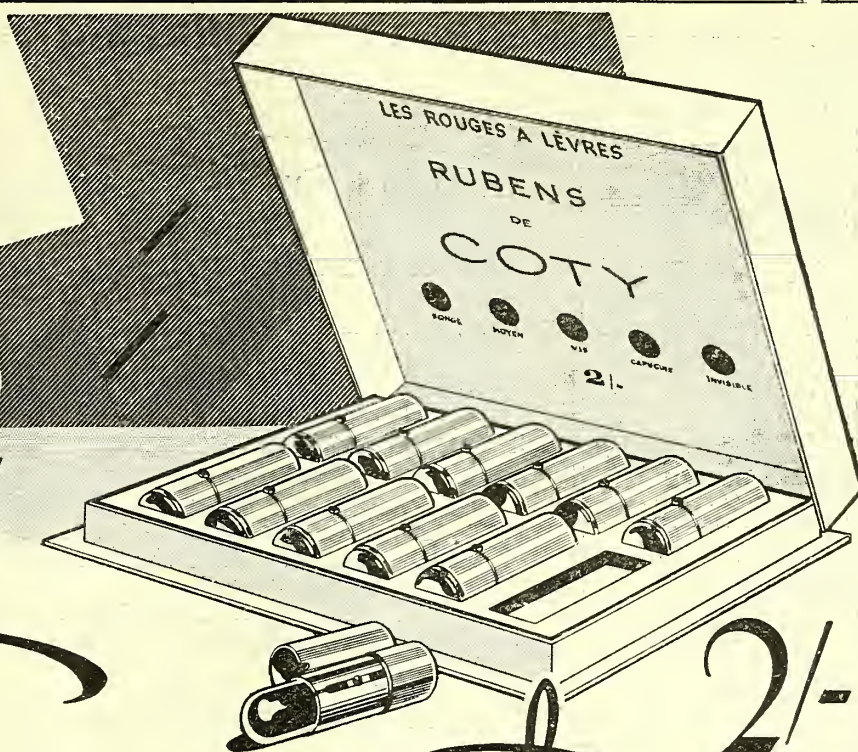
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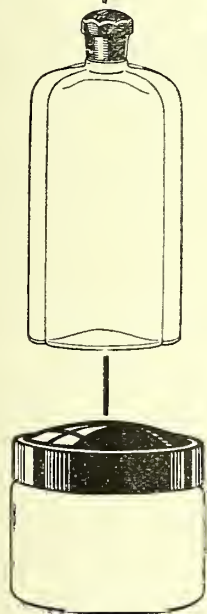
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## INDEX TO ADVERTISERS

Aerograph Co., Ltd. (DeVilbiss Sprays, &c.)	14	Calvert, F. C., & Co., Ltd. (Pumice Soap)	14	Glycerine, Ltd.	xvi
Armour & Co., Ltd. (Thyroidium, &c.)	4	Christy, T., & Co. (Cachet Machines)	16	Gollin & Co. Pty., Ltd. (Aspro)	vii
Association of Manfg. Chemists, Ltd. Col. Supp.		Clark, S. F. (Valuer, &c.)	Col. Supp.	Griffin & Tatlock, Ltd. (Pharmaceutical Machinery)	xx
Ayrton, Saunders & Co., Ltd. (Wholesale Druggists)	Cover	Constipon Tablets	viii	Grout & Co., Ltd. (Crêpe Bandages)	xxii
Bailey, R., & Son, Ltd. ("Steraid" Dressings)	16	Cooper Laboratory, Ltd. (Tablets, &c.)	Leader Page	Hack, Edward (Anti-Thrax Shaving Brushes)	xxii
Beechams Pills, Ltd. (Pills and Powders)	xiii	Coty (England), Ltd. (Toilet Preps.)	3	Hackett, S. E. (Film Overstocks)	Col. Supp.
Bell, John, Hills & Lucas, Ltd. (Pharm. Preps.)	Leader Page	Cox, A. H., & Co., Ltd. (All Fours Cubes)	1	Hampshire, F. W., & Co. (1927), Ltd. (Snowfire Jelly)	xiv
Bennett, Sons & Shears, Ltd. (Machinery)	22	Crookes Laboratories (Halibut Liver Oil)	xvii	Haywood, J. H., Ltd. (Surgical Appliances)	xxiii
Berdoe & Fish, Ltd. (Valuers, &c.) Col. Supp.		Cuxson, Gerrard & Co., Ltd. (Thermoid Socks, &c.)	8	Hill, Thos., Engineering Co. (Hull), Ltd. (Bottle Washing Machinery)	18
Berton, Arthur, Ltd. (Greetings)	17	Dae Health Laboratories, Ltd. (New Veet)	2	Horne, L. A., & Sons (Drugs, &c.)	iii
Birley's Antacid, Ltd. (Indigestion Remedy)	viii	Dickeson, R., & Co. (Besorbon)	xii	Houbigant ("Quelques Fleurs" Perfumes)	15
Blackie, R. (Spun Ointments)	vi	Dudley & Co., Ltd. (Display Fittings)	16	Howards & Sons, Ltd. (Quinisan)	i
Blythe, W., & Co., Ltd. (Chemicals)	ii	Edge, W., & Sons, Ltd. (Drummer Dyes)	xvi	International Chemical Association (Renipas)	viii
Bob Martin, Ltd. (Dog Remedies)	19	Ellis, J. E., Ltd. (Daisy Headache Powders and Tablets)	xv	Johns, Son & Watts, Ltd. (Cartons)	10
Brierley, John (Valuer, &c.)	Col. Supp.	Elmesan (London), Ltd. (K.D. Air Desiccator)	x	Johnson & Sons Manufacturing Chemists, Ltd. (Pharmaceutical Chemicals, &c.)	iii
British Felsol Co., Ltd. (Asthma Remedy)	Leader Page	Esperis (Italian Essential Oils)	ii	Josephs, Philip, & Sons (Shopfittings)	Col. Supp.
Brown & Son, Ltd. (Stills)	20	Evans, Adlard & Co., Ltd. (Filter Papers)	22	Kalisky, S. (Aldgate), Ltd. (Wanie Blades)	15
Burge, Warren & Ridgley, Ltd. (Surgical Rubber Goods)	xxii	Ferris & Co., Ltd. (Nepenthe)	xii	Kay Bros., Ltd. (Linseed Compound)	xiv
Burrough, James, Ltd. (Alcohol)	Leader Page	Frischmann, H. (Crude Drugs)	5i	Kent, G. B., & Sons, Ltd. (Brushes)	12
Burroughs Wellcome & Co. ('Kepler' C.L.O. and Malt)	23	Galloway, P. H., Ltd. (Cough Syrup)	ix	King, G., & Co., Ltd. (Foods)	Cover
Bush, W. J., & Co., Ltd. (Acetanilide B.P., &c.)	7	General Optical Co. (Ophthalmic Instruments, &c.)	22	Lightbown, J. W., & Sons, Ltd. (Grips Pastilles)	x
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## INDEX—cont.

Manchester Tutorial College .....	16	Perken, Son & Co., Ltd. (Clinical Thermometers) .....	xxiii	Southall Bros. & Barclay, Ltd. (Sanitary Towels) .....	xxiii
Mandall & Co., Ltd. (Licoridine) ....	xii	Phillips Yeast Products, Ltd. (Greetings) .....	xiv	Sozol (1924), Ltd. (Egg Preservative) ..	10
Martin, Bob, Ltd. (Dog Remedies) ..	19	Potter & Clarke, Ltd. (Wholesale Druggists) .....	21	Sterns, Ltd. (Oils, Petroleum) .....	vi
Mathier, William, Ltd. (Corn Plaisters) .....	xxiii	Pure Russian Liquid Paraffin Co., Ltd. ....	iv	Sutley & Silverlock, Ltd. (D.B. Act Registers, &c.) .....	xvii
Matthews, D., & Son (Shopfittings) Col. Supp. ....		Raleigh Cycle Co., Ltd. (Delivery Cycles) .....	9	Taylor, John (Cimolite Toilet Preps.) ..	12
Matthews Laboratories, Ltd. (Digitalis) .....	Leader Page	Ransom, W., & Son, Ltd. (Solid Extracts, &c.) .....	Cover	Thompson, John (Wholesale Druggists, 1921), Ltd. (Pile Ointment) ..	6
Maund, F., & Berg, E., Ltd. (Showcases) .....	16-Col. Supp.	Rendell, W. J., Ltd. (Quinine Pessaries) .....	xxii	Tokalon, Ltd. (Bonus Offer) .....	13
Maw, S., Son & Sons, Ltd. ....	11	Riley, J., & Sons, Ltd. (Hypo, &c.) ..	iii	Toogood, Wm., Ltd. (Bakelite Capped Bottles, &c.) .....	5
Medway Corrugated Paper Co., Ltd. (Corrugated Papers, &c.) .....	Cover	Roberts & Sheppey, Ltd. (MelRose) ..	x	Town Talk Polish Co. (Liquid Silver Polish) .....	xviii
Meggesson & Co., Ltd. (Sore Throat Lozenges) .....	Cover	Robinson & Sons, Ltd. (Perfumery Boxes) .....	12	T.P. Company (Toilet Paper) .....	xxii
Midgley & Parkinson, Ltd. (Yeast Preps.) .....	xvi	Ronaldson, J., & Co. (Senna) .....	ii	Vareen, Ltd. (Nail Polish) Leader Page ..	
Molson Ionized Iodine Co., Ltd. ....	16	Rulduck & Co. (Shopfittings) Col. Supp. ....		Veno Drug Co. (1925), Ltd. (Veno Products) .....	xi
Mosans Quinine Pessaries .....	xxii	Scholl Manfg. Co., Ltd. (Foot Specialities) .....	xxi	Viggormalt, Ltd. (Malt Extract and Hops) .....	xviii
Mundet Cork Products, Ltd. (Bakelite Stoppers, &c.) .....	20	Scott & Bourne, Ltd. (Williams' Shaving Preps.) .....	16	Viscose Development Co., Ltd. (Bottle Capping) .....	20
Myers, E. J. (Shopfittings) .. Col. Supp. ....		Scruton, O., & Co. (Nurse Harvey's Mixture) .....	16	Wagner, R. V. (Bottle Caps) .....	18
Mysore, Trade Commissioner for, in London (Sandalwood Oil) .....	6	Scurr, C. A. (Optical Tuition) .....	10	Warrick Bros., Ltd. (Popular Lines) ..	24
National Cash Register Co., Ltd. ....	18	Shadeine Co. (Hair Dyes) .....	16	Westminster College of Pharmacy ..	10
Nazone, Ltd. (Inhalant) .....	xvi	Silks Toilet Co. (Sifter Box) .....	12	Whiffen & Sons, Ltd. (Bromides) ..	Cover
Newball & Mason, Ltd. (Extract of Herbs) .....	xviii	Silvertown Lubricants, Ltd. (Liquid Paraffin) .....	xii	Wilkinson, S. W., & Co. (Rotary Tablet Machines) .....	xx
Norwegian Cod Liver Oil .....	xix	Smith, T. & H., Ltd. (Alkaloids) ....	iv	Wilson & Mansfield (Eucalyptus Oil) ..	ii
Oralite Co., Ltd. (Denture Soap) ....	12	Solazzi (Liquorice) .....	ii	Wood Bros. Glass Co., Ltd. (Glassware) .....	18
Orridge & Co. (Valuers, &c.) Col. Supp. ....		Solidol Chemical, Ltd. (Lysolats) ..	xvi	Wyleys, Ltd. (Pharmaceuticals) ..	Cover
Owbridge, W. T., Ltd. (Greetings) ..	viii	Solport Bros., Ltd. (Finger Stalls, &c.) .....	8	Zeal, G. H., Ltd. (Clinicals) .....	20
Pam Manfg. Co., Ltd. (Sanitary Pads) .....	16			Zimmermann, C., & Co. (Chem.), Ltd. (Chemicals, &c.) .....	v
Parke, Davis & Co. (Bronchial Lozenges) .....	xxiv				

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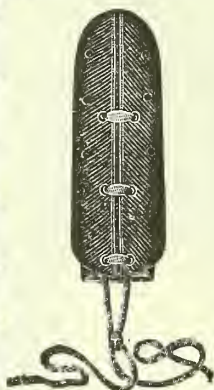
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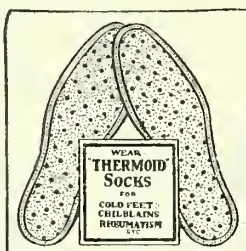
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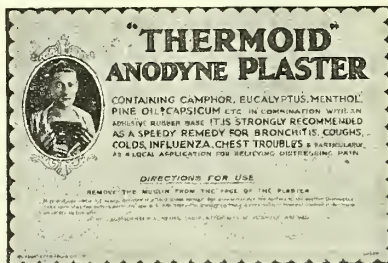
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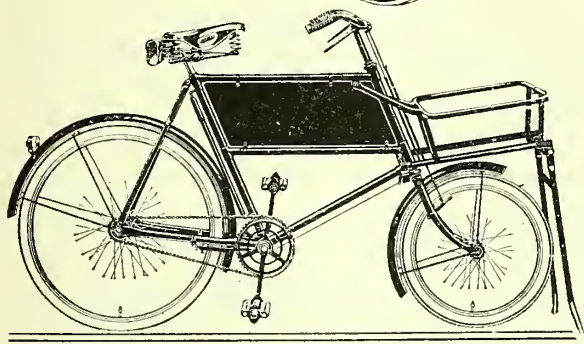
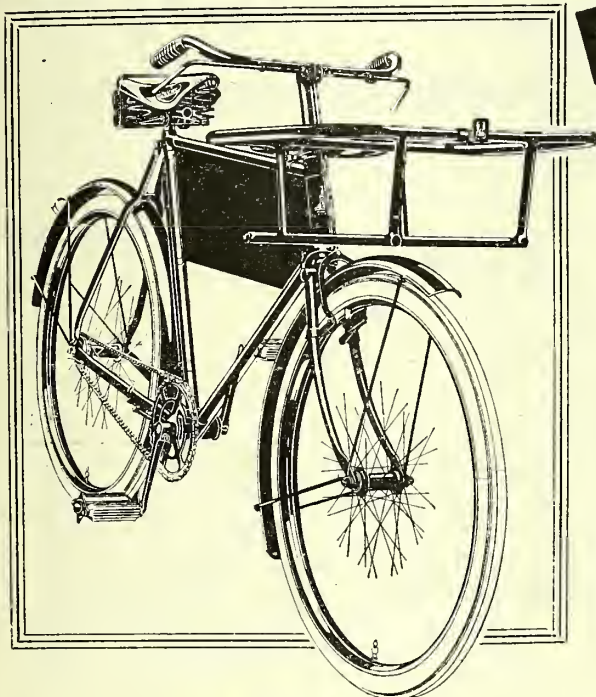
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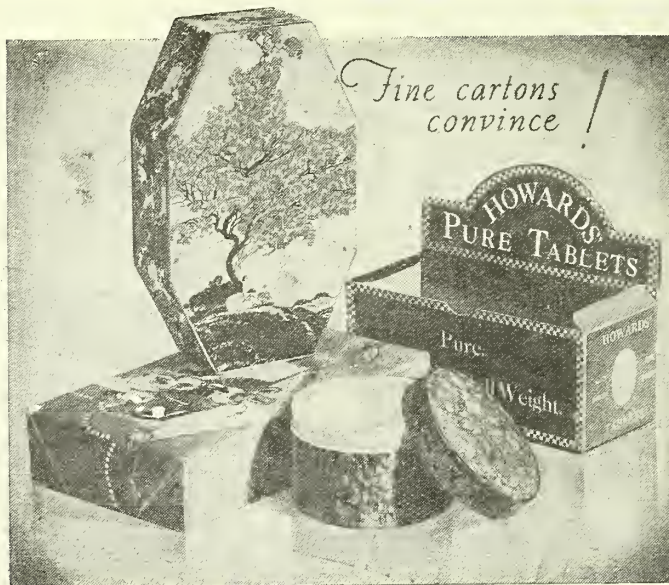
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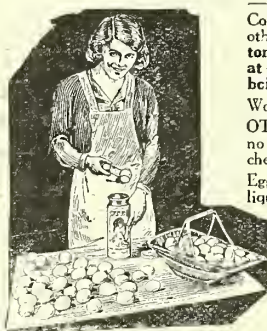
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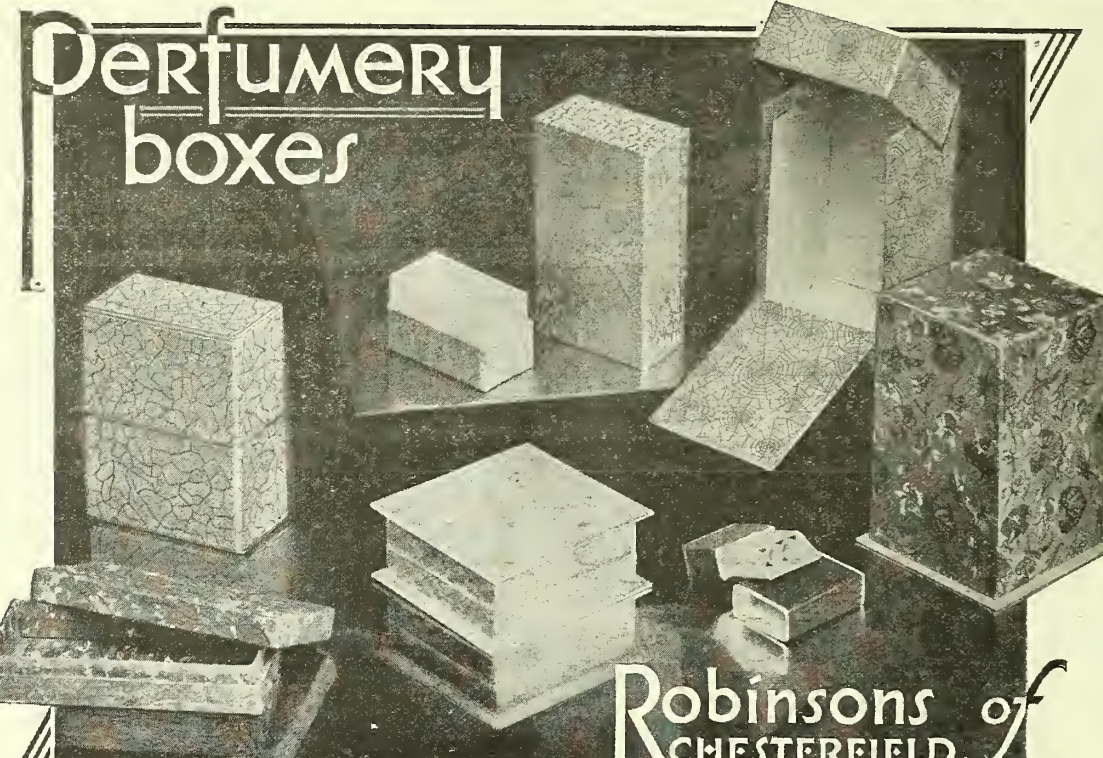
To each of its customers and friends at Home and Overseas the House of Maw extends a hearty greeting for Xmas and the New Year. May this Xmas Season be both prosperous and happy for every pharmacist.

In the New Year may universal peace and essential understanding bring widespread prosperity, in which all members of the craft may participate.

S. Maw, Son & Sons, Ltd.,  
Aldersgate St., London,  
and Barnet.



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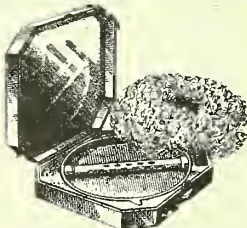
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With and without ROUGE.  
The Very LATEST and BEST.  
SURPASSES ALL OTHERS.

POINTS OF SUPERIORITY:  
Swansdown Puff, Rouge Sieve  
Pad, Unbreakable Mirror—  
Simple watch movement—The  
POWDER is easily refilled by  
lifting up the centre tray—No Powder can possibly be spilt  
—No waste—The Powder sifts in the centre only.



6/6 size Single 54/- doz.  
8/6 „ with Rouge 72/- „  
10/6 „ Enamelled 84/- „  
SILK'S TOILET Co., 8 & 9 Red Lion St., London, W.C.1

## TAYLOR'S CIMOLITE TOILET POWDER

THE PERFECT POWDER FOR NURSERY USE



A perfectly bland and non-irritating Powder, Invaluable in all cases of Excoriations, Chafing, Roughness of the Skin, etc. Recommended by eminent skin doctors and recognised as the leading Toilet Powder for over 70 years by the nursing profession. Used in the Royal Households.

In deference to the many requests received from users of "CIMOLITE," a sprinkler tin to retail at 1/1½ is now available. This new packing is in addition to the familiar 1/1½ packet which is still on the market.

When ordering please specify TINS or PACKETS. "CIMOLITE," in all sizes, also CIMOLITE SOAP AND CREAM, is stocked by all Wholesale Chemists and Druggists.

TERMS and ILLUSTRATED PRICE LISTS, also ATTRACTIVE SHOWCARDS, Counter Bills and other selling literature, obtainable from  
**JOHN TAYLOR, 30 Baker Street, Portman Square, LONDON, W.1.**

## G. B. KENT & SONS, LTD.

Are known the World over as  
the Largest Manufacturers of

# BEST BRITISH BRUSHES

Please write for full Particulars to:  
**75 FARRINGDON ROAD, E.C.1**

## OVER FIVE THOUSAND DENTISTS

are now using, and recom-  
mending their patients to use

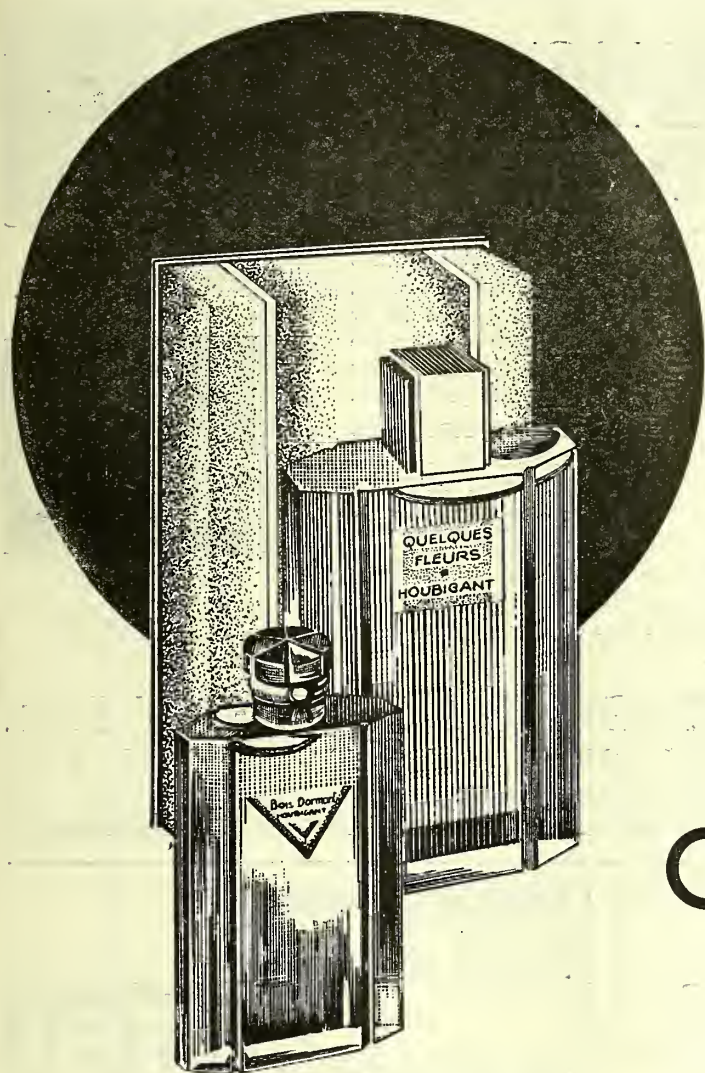
## ORALITE DENTURE SOAP

The most effective cleanser and steriliser known  
for NATURAL TEETH, ARTIFICIAL TEETH  
— and the GUMS —

We are shortly commencing a National Advertising  
Campaign, so be prepared and write for particulars  
of our attractive first order terms.

**THE ORALITE CO., LTD., THORNTON, Blackpool, Lanes.**





HOUBIGANT  
PERFUMES  
FOR  
CHRISTMAS  
GIFTS  
QUELQUES  
FLEURS

THE WORLD'S MOST FAMOUS PERFUME

DAINTY FLACONS . . 4/6, 7/6, 10/6, 12/6, 21/-, 27/-, 52/-

GIFT SETS . . . . . 13/-

VANITY CASES . . 7/-, 8/-, 9/-, 12/-, 24/-, 27/6

COMPACTS . . . . . 2/3, 3/3, 3/9

WRITE OR PHONE FOR CHRISTMAS LIST

# HOUBIGANT

PARIS

LARDEN ROAD

PARFUMERIES DE PARIS LIMITED

ACTON - LONDON

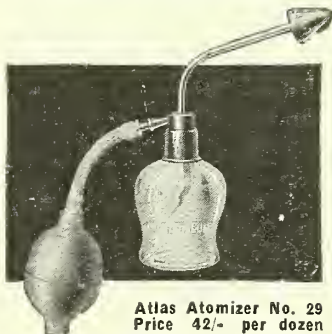
TELEPHONE : SHEPHERDS BUSH 2343

# DeVilbiss ATOMIZERS



DeVilbiss Atomizer No. 15  
Price 58/- per dozen

Nose and throat Atomizer for either oils or aqueous solutions. Adjustable tip permits spraying in any direction.



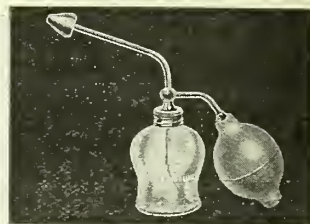
Atlas Atomizer No. 29  
Price 42/- per dozen

Gives a continuous spray with oils or aqueous solutions. Does not drip.

The name DeVILBISS stands for all that is best in Atomizers. DeVILBISS means reliability, sound workmanship, long life and correct design gained by more than 42 years' experience in the manufacture of Atomizers to meet every requirement of the medical profession.

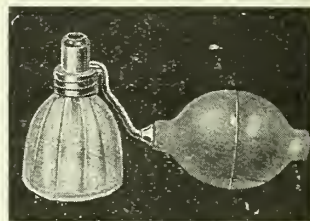
With all their advantages DeVILBISS Atomizers are reasonably priced. They are ABSOLUTELY GUARANTEED and will be repaired or replaced free of charge if found unsatisfactory.

Conspicuously displayed, DeVILBISS Atomizers sell themselves and their use stimulates the sale of the solutions used in them.



Atlas Atomizer No. 25  
Price 34/- per dozen

Continuous spray Atomizer for either oils or aqueous solutions.



Atlas Atomizer No. 20  
Price 30/- per dozen

A compact, durable and dependable nasal Atomizer for either oils or aqueous solutions.

## AEROGRAPH COMPANY LTD.

43 HOLBORN VIADUCT, LONDON, E.C.1

Sole distributors of DeVilbiss Products in the United Kingdom.

CVS-50

## SELL TO MOTORISTS

HERE is the Soap you have been looking for. A pumice block which looks like a high grade toilet soap—and lathers like one, too. And at a price which is within the reach of all.

### CALVERT'S PUMICE SOAP

#### SPECIAL OFFER

On orders of £4  
2/- doz. less 10% and 2½% cash  
On orders of 54/-  
2/- doz. less 5% and 2½% cash

NOTE.—Orders need not be confined to Calvert's Pumice Soap solely, but can include any of our other well-known lines.

F. C. CALVERT & CO., LTD., Manchester

## QUALITY WILL TELL

# WANIE

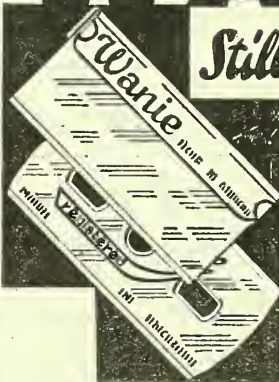
*Still the 'Best Seller'*

Single-sided 10/- per 100  
Three-hole 8/- per gross

Send for sample to Dept. C. D.  
S. KALISKY (Aldgate), LTD.  
146 THEOBALD'S ROAD, W.C.1

Northern Distributors:  
S. KALISKY (Aldgate), LTD.  
16 Withy Grove, Manchester

Irish Free State Agents:  
Messrs. W. A. Freedman & Co. Ltd.  
20-21 Merchants Quay, Dublin  
Wholesalers are invited to  
apply for Trade Terms





# TOKALON OFFERS

## FREE GOODS *WITH* EVERY LINE ORDER WHAT YOU LIKE

We offer the following Special Bonus over and above ordinary terms on One Order ONLY:

1. 13 to the Dozen on all lines
2. Extra Free Goods with an order for £5 and over
3. Free Perfume in every 1/- Powder

These Orders can be varied in any way. If you prefer to choose the lines yourself you are at liberty to do so.

**65%  
PROFIT**

### Example No. 1

	Trade	Retail
	£ s. d.	£ s. d.
4 doz. Poudre Tokalon 6d. size	18 0	1 4 0
1 " " " 1/-	9 0	12 0
2 " Vanishing Skinfood 6d. "	9 0	12 0
1 " " " 1/-	9 0	12 0
1 " Biocel " 6d. "	4 6	6 0
1 " " " 1/3	11 3	15 0
	£3 0 9	£4 1 0
Less 10% Display Allowance	6 1	
	£2 14 8	
Less 2½% Cash Discount for prompt settlement	1 4	
	£2 13 4	
<b>FREE GOODS</b>		
1 Free to the Dozen		6 9
		£4 7 9
Retail ..	£4 7 9	
Cost ..	£2 13 4	
Your Profit	£1 14 5	= 65% on Cost

**80%  
PROFIT**

### Example No. 2

	Trade	Retail
	£ s. d.	£ s. d.
6 doz. Poudre Tokalon 6d. size	18 0	1 16 0
2 " " " 1/-	18 0	1 4 0
1 " " " 1/6	13 6	18 0
4 " Vanishing Skinfood 6d. "	18 0	1 4 0
2 " " " 1/-	18 0	1 4 0
1 " Biocel " 1/3	11 3	15 0
1 " " " 6d.	4 6	6 0
1 " Vanishing Cream 10d. Pot	7 6	10 0
1 " Compact Refills 9d. size	6 9	9 0
	£6 4 6	£8 6 0
Less 10% Display Allowance	12 5	
	£5 12 1	
" 2½% Cash Discount for prompt settlement	2 9	
	£5 9 4	
<b>FREE GOODS</b>		
1 Free to the Dozen		13 10
<b>EXTRA FREE GOODS</b>		
1 doz. 6d. Powder or 6d. Vanishing Skinfood		6 0
4 Black and Nickel Compacts 2/6		10 0
Retail ..	£9 15 10	
Cost ..	£5 9 4	
Your Profit	£4 6 6	= 80% on Cost

## FREE PERFUME

Inside each 1/- box of Poudre Tokalon we include a Bottle of the new KAPPA Perfume to be given FREE.

This plan has proved tremendously successful in switching the public from 6d. to 1/- Powder, and doubling your profit on each sale. The widespread National Advertising of this scheme is being continued on a bigger scale than ever.

**We Guarantee that the above Offer will positively Close December 31st.**

NO ORDERS CAN BE ACCEPTED AFTER THAT DATE

Due date for Cash Discount—January 15th.

**TOKALON LTD., CHASE ROAD, LONDON, N.W.10**

# "STERAID" Regd. Dressings

Patent No. in Great Britain  
221761/1924 and patented in all  
the principal foreign countries.

Patent Rotating Canister packing to retain aseptic conditions. In use, only  
the amount required is withdrawn and cut off. The remainder is not exposed

GAUZES.				LINTS.			
Minimum Public Prices Each		Minimum Trade Prices Per Doz.		Minimum Public Prices Each		Minimum Trade Prices Per Doz.	
6-yd. 3-yd. 1-yd.		6-yd. 3-yd. 1-yd.		6-yd. 3-yd. 1-yd.		6-yd. 3-yd. 1-yd.	
Sel Alembroth		Plain Absorbent		1/8 1/0 1/2 -/7		15/- 9/4 5/3	
Sublimat		Double Cyanide		2/- 1/2 1/2 -/8		17/6 10/7 5/9	
Carbolic		Iodoform 5%		2/8 1/6 1/2 -/9		24/- 13/10 6/9	
Boric		Picric					

**ROBERT BAILEY & SON LTD.,** Marriott Street Mills, STOCKPORT  
 \*Phone: Stockport 2794 and 4165. London Office: SOUTHAMPTON ROW, W.C.1 Wires: "Undisputed, Stockport."

## PAM sanitary PADS

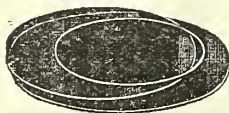
PAM Compressed, Standard, Soluble. Obtainable from your Wholesaler. Get Bonus Parcel Now.  
**PAM Manufacturing Co., Ltd.,** 10 Kingly Street, Regent Street, London, W.1

### CHROMIUM PLATED DISPLAY FITTINGS—



No. CD/SF 5116  
**Metal Display**  
 Tripods with  
 Rubber Buffers  
 top and bottom.  
**CHROMIUM  
 PLATED  
 finish**

Modern Display needs  
 Black Glass Ovals



No. CD/SF 5131 Black Glass Ovals.  
 Rounded and Polished edges.

Stocked in 3 sizes only:

14 1/2 x 10 in.	4/- each
18 x 12 in.	5/9 "
20 x 15 in.	7/6 "

Send for a copy of our full list of Shopfittings No CD 1360 free.

**DUDLEY & CO. LTD.,** 451 Holloway Road, LONDON, N.7  
 City Showrooms: 65-66 Fove Street, E.C.

### NURSE HARVEY'S MIXTURE

A safe, simple and reliable remedy for Children's  
 Ailments is advertised so extensively in the  
 daily and weekly Press as to bring mothers to  
 the retailer without effort on his part.

The selling has been done before the mother  
 reaches the chemist, and, having supplied her, it  
 is only common sense to claim she will buy other  
 family necessities from him. Moreover, the con-  
 tinuous demand for it produces a quick turnover.

For Direct Terms apply to—

**OSCAR SCRUTON & CO., YORK**

### IONIZED IODINE

(MOLSON BRAND)

Obtainable from the usual wholesalers or the makers  
**MOLSON IONIZED IODINE CO. Ltd.**  
 34 C, GABRIEL'S HILL, MAIDSTONE



### SHADEINE FOR TINTING GREY HAIR

This popular article is largely advertised  
 and stocked by all Wholesale Houses.  
 1/2 pint size, 8d., per doz. -- -- -- 9/-  
 1/4 pint size, per doz. -- -- -- 12/-  
 1/8 pint size, per doz. -- -- -- 14/-  
 1/16 pint size, per doz. -- -- -- 16/-

The SHADEINE Co., 58 Westbourne Grove, London, W.2

### How are your Stocks of WILLIAMS' Shaving Preparations?

Sole Distributors:

**SCOTT & BOWNE, LTD.**  
 10/11 Stonecutter Street - London, E.C.4

### CHEMISTS' FITTINGS OF EVERY DESCRIPTION. NEW AND SECONDHAND.

**F. MAUND & E. BERG (SHOWCASES) LTD.,**  
 175/9 and 336 OLD STREET, LONDON, E.C.1

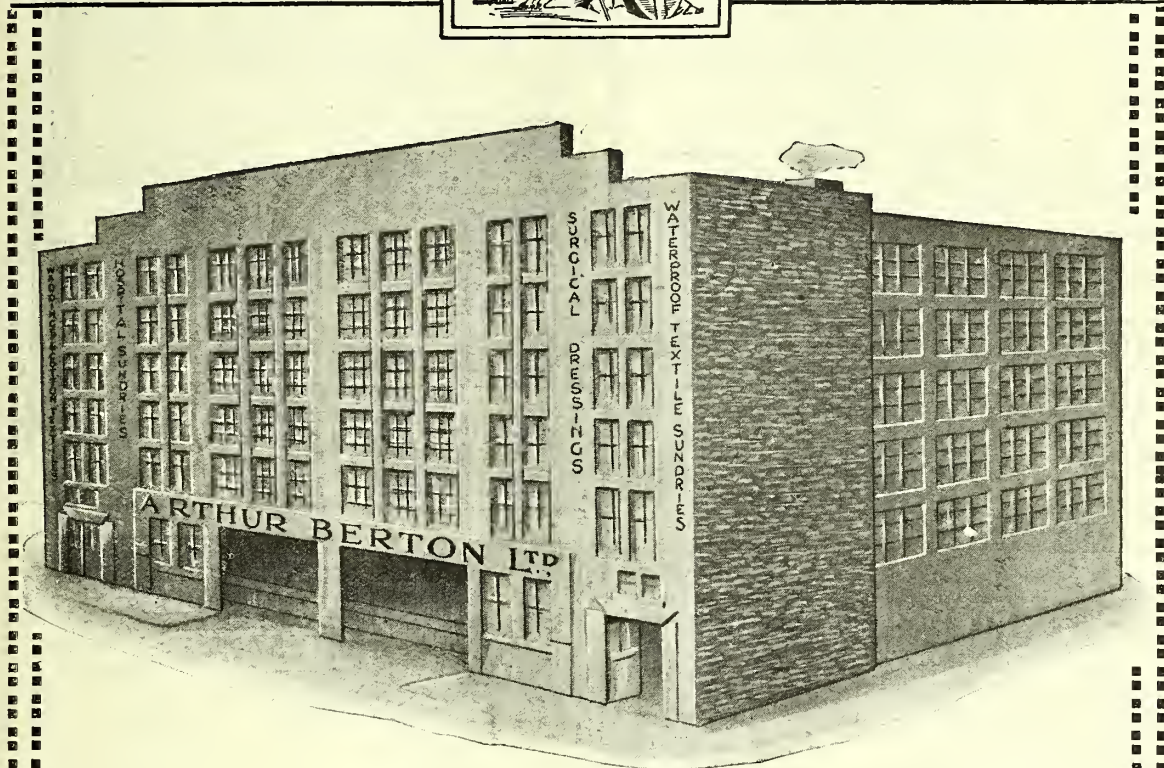
### MANCHESTER TUTORIAL COLLEGE 327 OXFORD ROAD, MANCHESTER

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REVISION COURSES for PRELIMINARY SCIENTIFIC  
 EXAM. start OCTOBER, JANUARY, APRIL & JULY.  
 FULL COURSES for MATRIC. and PHARM. PRELIM.

**Cachet** CLOSING and FILLING **machines**  
**4/6 to 52/6**  
 to suit all Dispensing Requirements.  
 WRITE FOR ILLUSTRATED LIST.  
**THOS. CHRISTY & CO.,** 4-12 Old Swan Lane, LONDON, E.C.4.





*The Directors, Representatives and Staff take this opportunity of Wishing their many Customers a*

**Happy Christmas and  
Prosperous New Year**

**BRITANNIA HOUSE, 256/260 OLD ST.  
LONDON, E.C.1**

**MANCHESTER:** Telephones: Clerkenwell 1346/7/8/9  
36 CHAPEL ST. Tele.: "Aybelim, Finsquare, London."

**GLASGOW:**  
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**PHARMACEUTICAL**

**W** **HIGHEST**


DISPENSING  
BOTTLES  
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BOTTLES  
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SPRINKLER  
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OPAL AND  
FROSTED  
GLASSWARE

**QUALITY**

**GLASSWARE**

K. GRAHAM



DESIGNERS & MANUFACTURERS  
OF GLASSWARE FOR PERFUMES  
COSMETICS AND BATH SALTS

**WOOD BROS. GLASS CO.  
LIMITED**

(ESTABLISHED 1828)

**BARNSELY . . . ENGLAND**

## Whose Money?

WHEN mistakes, forgetfulness and temptation take toll of the takings . . . whose money is short?

Wholesalers, assistants, rent, rates, taxes and other overheads must be paid. Whenever cash leakages occur **IT IS THE PROPRIETOR WHO LOSES.**

That is why thousands of retailers throughout Britain declare that their adoption of a

*National*  
**CASH REGISTER**

is the best investment they ever made.

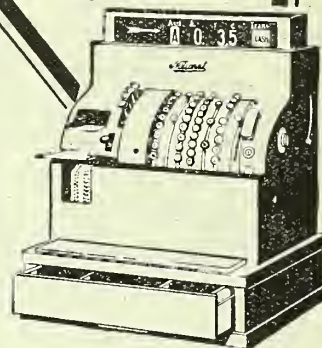
"NATIONALS" embody every Cash Register feature of proved value. They not only reveal and stop profit leakages . . . they enable alert retailers to INCREASE profits, and to do it with much less work and worry. Full details about a "National" that will meet your needs exactly await your request. Write and tell us your problems to-day. Every machine is offered on easy terms and enquiry involves no obligation.

Address enquiry to:—

**NATIONAL CASH REGISTER Co. Ltd.**

225 Tottenham Ct. Rd., W.1

'Phone: MUSEUM 9811



NOW BRITISH MADE

**WAGNER'S DRY BOTTLE CAPS**  
BEST IN QUALITY & APPEARANCE



33 BROOKE ST., LONDON, E.C.1 Tel.: Holborn 5090

## SPRINKLER BOTTLES

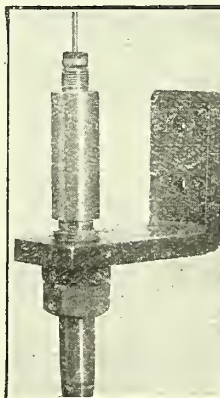
### Automatic Rinsing

Can be connected to the town's water supply by metal or india rubber hose pipe.

By merely passing the mouth of the bottle over the jet and pressing the bottle downwards water is automatically sprayed into the bottle. The water completely drains away from the bottle as it is withdrawn.

Further particulars may be obtained from the makers:—

**The THOMAS HILL Engineering Co. (HULL), Ltd.**  
9 PARK LANE, STEPNEY, HULL.







STRIKING

NEW

FORCEFUL

Here is the display NOW  
making tremendous profits  
for pharmacists YOU CAN HAVE IT  
 WORKING FOR YOU WITHIN 24 HOURS.

### COUPON

Please send me 3-piece Winter Coat Screen.

NAME.....

ADDRESS.....

Post the coupon to Southport or to your usual wholesaler.

EVERY week, just now, 22,000,000 impressions of Bob Martin Winter Coat advertising are appearing in all leading National and Provincial newspapers.

And the display you see above is the VITAL LINK between this full pressure advertising and your Pharmacy. The way to make the Bob Martin advertising work full time for you is to have one of these displays in your window. Every other person who passes your pharmacy is a dog owner, and they will buy from you if they know you can meet their needs. Sales up, profits up—and mounting UP, UP, UP, is the verdict of all pharmacists who are displaying this screen. If you have not got one yet fill in the coupon on the left now, and send it to Southport. Miniature 6d and 1/- Condition Powder outers to complete the display can be had from your wholesaler. Cut out the coupon now—this display can be working for you in 24 hours.

**BOB MARTIN LTD.**  
**SOUTHPORT** **LANCS.**

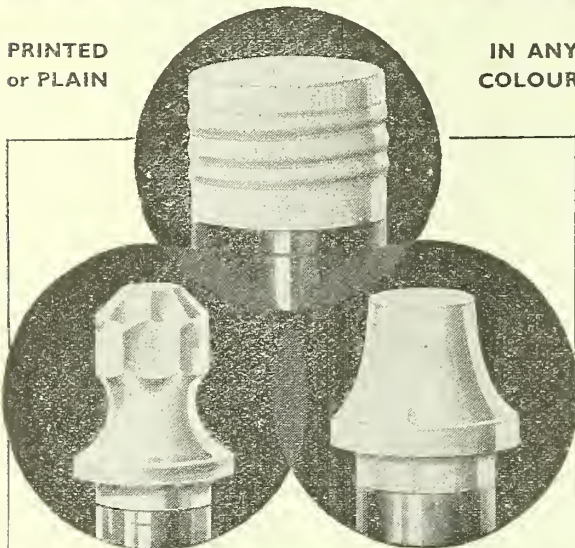


# VISKAP

SELF-FIXING  
BOTTLE CAPS

PRINTED  
or PLAIN

IN ANY  
COLOUR



## PROTECTION

first, last and all the time is definitely assured when your product is sealed with a Viskap. Place a wet Viskap in position—let it dry—seals as it shrinks. Perfectly hygienic. Entirely British.

ALSO

# MOULDINGS

OF ALL DESCRIPTIONS

FROM

## Bakelite & Similar Materials

*Send us your enquiries.*

We have a reputation of many years of service and quality to keep up and are anxious to help you.

**LET US ADVISE AND QUOTE YOU**

**VISCOSE DEVELOPMENT CO., LTD.,**  
WOLDHAM ROAD, BROMLEY, KENT

Telephone: Ravensbourne 4561

**Best sellers**  
The public is asking for **ZEAL** CLINICAL THERMOMETERS because they are:-  
**GUARANTEED TO STAY ACCURATE**  
**CONSISTENTLY ADVERTISED**

*Made by*  
**ZEAL**  
*—the name the public knows.*

**G. H. ZEAL, LTD.,**  
75 & 77, St. John St., London, E.C.1.

## TAPERED, PYRAMID, DOMED AND FLANGE CORKS

## COMPOSITION AND BAKELITE STOPPERS

THE MOST COMPETITIVE MANUFACTURERS IN THIS COUNTRY

## MUNDET CORK PRODUCTS, LTD.

12/18 ABBEY ST., TOWER BRIDGE ROAD, S.E.1

Telegrams: MUNDETCOMP, BERM, LONDON      Telephone: HOP 2685 & 3979

## DISTILLED WATER

AT

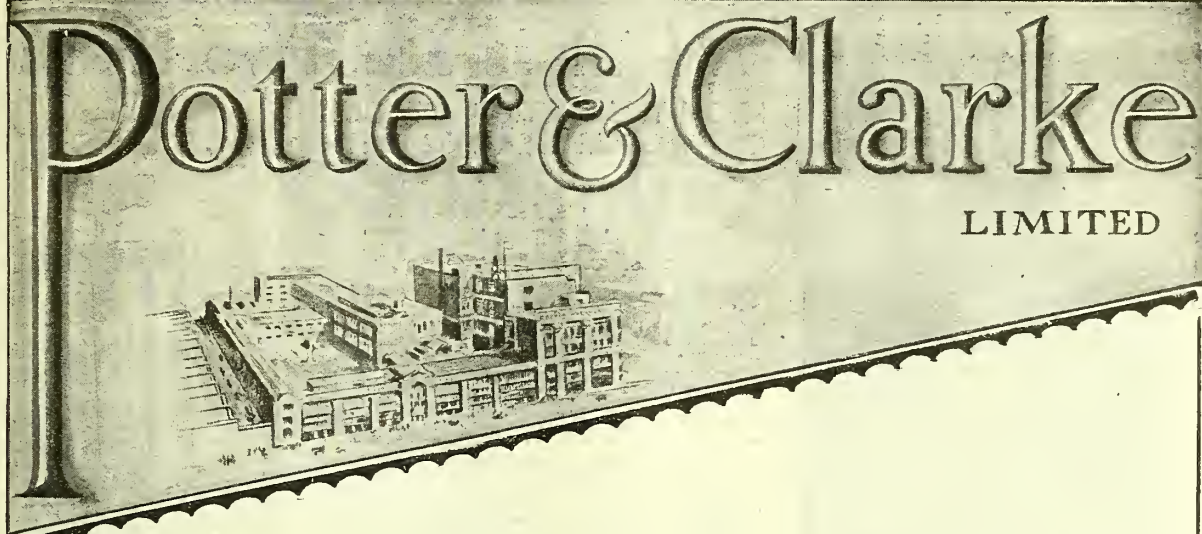
**$\frac{1}{3}$ d. PER GALLON**

By using Brown's Patent Automatic Water Stills pure distilled water may be obtained at the above cost, using steam at any pressure between 30 and 100 lbs. per square inch. The product is pure distilled water, not condensed water from steam service pipes. Full particulars free on application. Enquiries are not followed by personal call.

MADE ALSO FOR GAS HEATING

**BROWN & SON, LTD**  
Alembic Works, Wedmore St., London, N.19





LIMITED

# POTTER'S CATARRH PASTILLES

Potter's Catarrh Pastilles are of outstanding merit. They have captured the approval of the public and there is good business and profit for you in stocking this line.



P.A.T.A. 1/3 11/- doz.

In boxes of  $\frac{1}{2}$  Dozens.

Phones: Bishopsate 4761, (5 LINES) Horehound, Grams: Phone, London.

**60-64 ARTILLERY LANE, LONDON, E.1.**  
MANCHESTER: 24 Luna St., Gt. ANCOATS.





THE "GENO" CABINET TRIAL CASE

## We Illustrate Two Items

FROM THE SECTION OF OUR  
CATALOGUE DEALING WITH

### OPHTHALMIC INSTRUMENTS

TRIAL CASES, SIGHT  
TESTING CHARTS, ETC.

A COPY OF THIS SECTION OR THE  
COMPLETE CATALOGUE WILL  
GLADLY BE SENT ON REQUEST

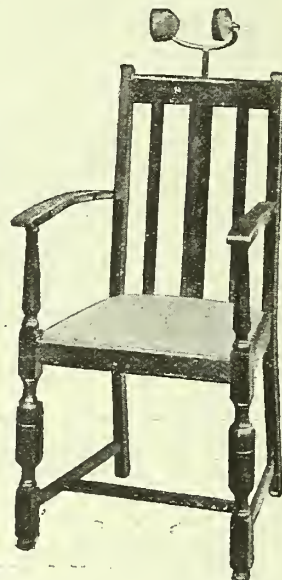
The OPTICIAN'S GREATEST CARE  
SHOULD BE THE CHOICE OF THE  
FINEST POSSIBLE EQUIPMENT

*Our endeavour has always been  
to manufacture and supply only*  
— THE BEST —

**The General Optical Co.**

(E. T. & F. W. CORNWELL)

120 CLERKENWELL ROAD  
LONDON, E.C.1

THE "GENO MINOR"  
REFRACTIONIST'S CHAIR

*English  
Filter*

**POSTLIP**  
*Papers*

SQUARES  
CIRCLES  
FOLDED  
ROLLS

WHITE  
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ANTIQUE  
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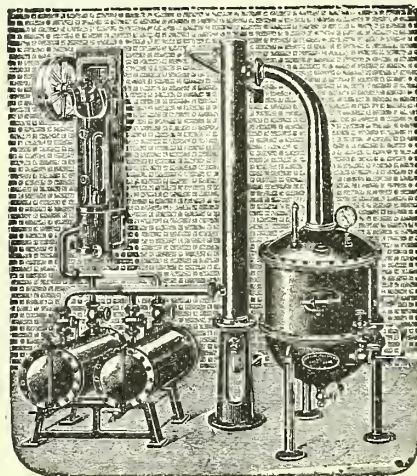
SAMPLES  
FREE

*Postlip Filterings are stocked by all the leading Wholesale  
Laboratory Dealers.*



**Evans, Adlard & Co. Ltd.**

*Postlip Mills, Winchcombe, Cheltenham.*



### STILLS, VACUUM STILLS, VACUUM PANS.

Evaporating Pans. Autoclaves and Digestors.

Special Apparatus and Plant for Manufacturing Chemists.

Sole Makers of Bennett's Patent "Ideal" Annular  
Film Condensers. Shears' Patent Muiser.

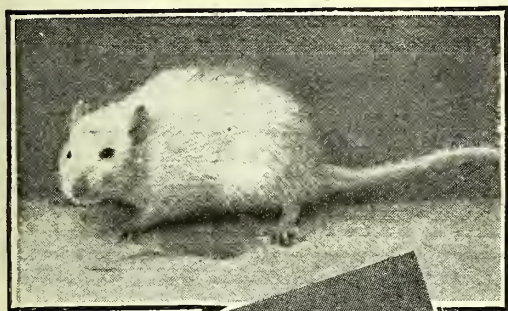
**BENNETT, SONS & SHEARS, LTD.**

Engineers & Coppermiths,

43 & 44 Shoe Lane - - - LONDON, E.C.4



TRADE 'KEPLER' MARK  
COD LIVER OIL  
WITH MALT EXTRACT



Illustrations show two rats of the same litter both fed on a basic diet devoid of Vitamin A. The diet of Rat A has, however, been supplemented with a daily addition of 8.3mgm. of 'KEPLER' COD LIVER OIL WITH MALT EXTRACT. Rat B, fed only on the basic diet, exhibits rough coat, xerophthalmia and general lack of condition.

*Prices in London  
to the Trade:*

24/6 per doz. bottles and  
43/6 per doz. bottles (subject)

Presents the finest cod liver oil and the best, malted English barley, acknowledged to be the most readily available natural sources of Vitamins A, B and D.

*Feeding tests  
prove  
Vitamin content*

The Vitamin content of 'KEPLER' COD LIVER OIL WITH MALT EXTRACT is confirmed by the growth test on rats. Illustrations show its growth-promoting qualities.

'KEPLER' COD LIVER OIL WITH MALT EXTRACT has been kept at room temperature for twelve months, after the removal of some of the contents of the bottle, without any evidence of decline in vitamin activity.

Sales promotion material is available



BURROUGHS WELLCOME & CO., LONDON

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# WARRICK BROTHERS, LIMITED

## A FEW POPULAR LINES

### PERFUMES

"CINET" SERIES.  
MADDOCKS' SERIES.  
R. HENDRIE & CO.'S SERIES.  
EAU DE COLOGNE.  
LAVENDER WATER.  
DROP PERFUMES.

### TOILET PREPARATIONS

HAIR PREPARATIONS.  
"CINET"  
WARRICK  
"FRAGRETТА"  
POMADES, FLORAL.  
MOUTH WASH TABLETS  
(Effervescing).  
ROSE WATER.

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CHERRY COUGH.  
GLYCERINE, LEMON AND  
HONEY.  
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GLYCERINE OF THYMOL  
COMPOUND.  
GLYCERINE AND BLACK  
CURRANT.  
MENTHOL AND EUCALYPTUS.

### CONFECTIONERY

GLUCOSE BARLEY SUGAR.  
GRAPE FRUIT "CRYSTADES."  
FRUIT DROPS.  
CACHOUS.  
REFRESHLETS.  
FIZZLETS.

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PILE PREPARATIONS.  
OLIVE OIL (Warrick Freres).

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ANALGESIC THROAT.  
IODIZED THROAT.  
IOMINTS.  
PEPPERMINT.  
BROMPTON.  
LINSEED, LICORICE AND  
CHLORODYNE.

### MEN-U DROPS

A really palatable MENTHOL AND EUCALYPTUS COUGH SWEET.

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**6 Nile Street, City Road, London, N.1.**

Telephone: CLERKENWELL 2452.

Telegrams: "WARRICKERS, NORDO, LONDON."

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# THE CHEMIST AND DRUGGIST

A Weekly Journal of Pharmacy, the Drug, Chemical and Allied Trades

*The official organ of The Pharmaceutical Society of Ireland,  
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## CONTENTS

DECEMBER 17, 1932

	PAGE
American Formulas	734
Association Meetings	730
Births	741
British Pharmaceutical Conference	750
Business Changes	740
Correspondence:—	
Letters	757
Legal Queries	758
Miscellaneous Inquiries	758
Subscribers' Symposium	757

	PAGE
Cheap Market	733
Christmas Holidays	727
Deaths	741
Drift of the Times	731
Editorial Article:—	
Poisoning Statistics	743
Festivities	728
Gazette	726
Harrison Lecture	744
Information Department	742

	PAGE
Insurance Act Dispensing	752
Irish Notes	724
Legal Reports	726
Lemon Oil	733
Marriages	741
National Pharmaceutical Union	747
New Companies and Company News	726
News of the Week	723
Personalities	741

	PAGE
Pharmaceutical Society of Great Britain:—	
Branch Meetings	747
Retrospect	753
Rural Patient	751
Scottish Notes	724
Solution Phenomena	748
Topical Reflections	725
Trade Marks	756
Trade Notes	740
Trade Report	753
Wills	741

## News of the Week

### Import Duties Advisory Committee

The Import Duties Advisory Committee give notice of applications for drawback under Section 9 of the Finance Act, 1932, in the case of the following:—

Linoleum, floorecloth, oilcloth, table baizes, and similar products, manufactured in and exported or shipped as stores from the United Kingdom, in respect of the imported linseed oil used in their manufacture. The application in respect of imported linseed is contingent upon the coming into force of an import duty upon this commodity.

The Committee further give notice of the following application:—

For increase in duties on glue and size, gelatine and osseine.

For the addition to the free list of silico-manganese.

Any representations which interested parties desire to make in regard to these applications should be addressed in writing to the Secretary, Import Duties Advisory Committee, Caxton House (West Block), Tothill Street, London, S.W.1, not later than January 4, 1933.

### Birmingham Technical College

The prize distribution of the Department of Pharmacy of Birmingham Central Technical College was held on November 30. Dr. S. Anderson (principal of the College) congratulated the department on a successful session. Mr. H. Berry (head of the Pharmacy Department) pointed out that the number of successes compared favourably with that for the whole country. Mr. E. Saville Peck (chairman of the Education Committee of the Pharmaceutical Society's Council) distributed the prizes as follows:—Gerard gold medal, E. Shotton; silver medal and books, R. Howarth; bronze medal and books,

R. W. Marshall; dispensing, F. A. Wilkes; advanced pharmaceutical chemistry, E. W. Tennent; pharmaceutical chemistry (C. and D.), A. J. G. Busst; all subjects, preliminary scientific course, R. B. W. Thorne; Thomas Chase prizes for botany, R. B. W. Thorne and A. N. Barrow; Woodward prize in chemistry (third year), D. H. Haines; (second year), Miss D. M. Upton and J. T. Young; Grove prize for botany, J. G. L. Strain; course prizes, Miss J. W. Green, A. B. Cope and J. E. Brettle.

### Inquests

An inquiry was held at Westcliff-on-Sea, recently, concerning the death of Dr. George Wilson, who qualified as a chemist and druggist before deciding to adopt medicine as a career. Evidence showed that Dr. Wilson died of a self-inflicted wound. The coroner, in recording a verdict of "Suicide while of unsound mind," said: "To my formal verdict I should like to add a tribute to the memory of the doctor, although I experience some difficulty in finding adequate words. . . . He was of a kind, genial and generous disposition. His death is a heavy blow to all his friends, and, I am sure, to all members of his profession."

An inquest was held by the West London coroner, on December 12, on the body of Daisy D. Emery, an unemployed shop assistant living in Uxbridge Road, W.12. Sir Bernard Spilsbury gave evidence to the effect that death was due to tuberculosis. W. Griffiths, Stanlake Road, who described himself as a herbalist, stated that he gave the deceased a powder for making a poultice for boils, and advised her to see a doctor. The Coroner: You consider yourself capable of dealing with all sorts of diseases?—I use natural herbs and my methods are godly. You tell us you have Divine assistance which puts you in a unique position?—Yes. A verdict of "Death from natural causes" was returned.

B B

**H.R.H. Prince George Visits Messrs. Howards**

H.R.H. Prince George, accompanied by several Home Office officials, paid a visit, recently, to the works of



H.R.H. PRINCE GEORGE (second from left) AT THE WORKS OF HOWARDS & SONS, LTD.

Howards & Sons, Ltd., Ilford. After lunching with the directors, his Royal Highness made a tour of the departments.

**Miscellaneous**

**POISON-LICENCE APPLICATION.**—The Southern Counties' Agricultural Trading Society, Ltd., have applied to the Salisbury City Council for a licence to sell agricultural poisons at Milford Street and at Brown Street, Salisbury.

**FALSE PRETENCES.**—At Nottingham, on December 6, Theodore C. Barnett (25), described as a chemist, was sentenced to three months' imprisonment for obtaining the sum of £400 by false pretences. It was stated for the prosecution that the accused and another man took offices in the city and commenced business as chemical merchants; when applications were made for posts, a deposit was demanded, and later both men disappeared.

**SPORTING EVENTS.**—The Ipswich Chemists' Hockey Club (men's team) met the Royal Air Force team from Felixstowe at home on December 7. In a fast game the visitors were leading at half-time 2—0. The game closed with a score of 7 goals for the R.A.F. and 1 for the chemists. The club held a successful dance to augment funds on November 30, when a most enjoyable evening was spent. Mr. S. J. Stearn (captain) and Mr. E. Hammond (vice-captain) acted as M.C.s. Spot prizes were presented to the winners by Mr. Stearn.—In their recent football matches Sheffield Chemists have lost to Central Thursday (2—4) and won against Walsh's (6—2).

**Scottish Notes****Brevities**

"An Angler's Recollections and Reflections" was the subject of an address by ex-Provost A. G. Laidlaw, chemist and druggist, Lockerbie, at the Dumfries Rotary Club, recently.

"Panel Doctor," writing to a Glasgow newspaper on the subject of "Treatment of Panel Patients," suggests that "the faith in panel medicine of intelligent insured persons will never be regained until cases of alleged extravagant prescribing are dealt with, not by a panel committee but by an impartial and disinterested body consisting of a professor of materia medica and two consulting physicians."

A committee has been formed by the Scottish National Development Council to undertake investigation of the present position and prospects of the different branches of the chemical industry in Scotland. The chairman is Professor G. G. Henderson (Glasgow University) and members of the committee include Mr. G. F. Merson, Ph.C. (pharmaceutical products), Mr. K. M. Young (soaps, disinfectants, etc.), and Dr. J. F. Tocher (consultant and analyst). The secretary is Dr. J. Vance Hopper, Royal Technical College, Glasgow.

**Irish Notes****Pharmaceutical Society of Ireland**

The latest dates for making application for the January examinations are:—Preliminary, December 22; Registered Druggist, December 27; Pharmaceutical Licence, January 2; Pharmaceutical Assistant, January 12.

**Pharmaceutical Society of Northern Ireland**

The results of the December examinations of the Pharmaceutical Society of Northern Ireland are as follows:—

Examinations under Schedule 2, Part IV (Parts I and II) of the Pharmacy and Poisons Act (Northern Ireland), 1925, were held in the Municipal College of Technology, Belfast, on December 5-8 inclusive. The following candidates, having passed in all the necessary subjects, are recommended for the Preliminary Scientific certificate and the certificate of Pharmaceutical Chemist respectively:—

*Under Schedule 2, Part IV (Part I)—Preliminary Scientific:*—J. D. Beckett, C. H. Bell, R. Frew, J. D. Goyer, Theresa I. Hanlon, J. J. Huey, J. T. Hunt, Margaret Meneely, B. McConville, Sarah J. McGifford, S. M. McMillan, Sheila S. Watson.

*Under Schedule 2, Part IV (Part II)—Final:*—J. A. Brown, J. Coulter, Frances R. Johnston, W. Johnston, J. Mitchell, Mary McAnallen, W. L. McDonnell, Kathleen A. Patterson, Eleanor D. Pratt.

The following candidates are referred in the subjects specified, and may complete at one subsequent examination:—

*Under Schedule 2, Part IV (Part I)—Preliminary Scientific:*—In botany and chemistry, A. Beattie, P. G. Cosgrove, D. De Larcy, Annie Finnegan, W. Press, J. Rankin, W. C. A. Smyth, E. J. Stafford; in botany and physics, Agnes G. Dorrian; in chemistry and physics, Catherine Cochrane, H. J. Marshall, J. W. Wright; in botany, S. A. Kerr, J. Wilkinson; in chemistry, J. M. S. Bingham, J. Kerrigan, J. A. Swenarton.

*Under Schedule 2, Part IV (Part II)—Final:*—In pharmacognosy and chemistry, J. W. Allister, E. C. Carson, C. L. Gordon-Rattie, R. H. C. Harvey, J. N. Hogg, Annie F. E. Kirk, W. H. Macartney, J. H. Magee, H. A. N. McKinty, G. M. Shaw, J. B. Thompson, J. M. Watson; in pharmacognosy, H. McCreedy, R. J. Picken; in chemistry, J. Bell, J. Bunting.

*Under Schedule 2, Part V.—Assistants:*—J. Bell.

**Dangerous Drugs Bill (Northern Ireland)**

In the Senate of the Parliament of Northern Ireland, on December 7, Viscount Charlemont moved the second reading of the Dangerous Drugs Bill (C. & D., December 10, p. 697). Colonel Sinclair, M.D., asked whether his lordship could give the House any assurance that at an early date an extension of the Dangerous Drugs Act could be hoped for. A year ago a combined letter from the Medical Faculty of Queen's University and the Pharmaceutical Society of Northern Ireland was sent to the Home Office, suggesting that the time had arrived when a third part might be added to the Dangerous Drugs Act with the object of protecting the public from the use of a number of organic preparations. The Pharmaceutical Society of Northern Ireland was a very highly organised body, as hon. members were aware, but, unlike the General



Medical Council and the Dental Board, it had no power to strike off its Register unworthy members until a conviction had been secured by the police or Home Office officials. Pending a conviction, the Society had to depend upon the police and salaried inspectors, and he was very happy to say that they carried out their duties very efficiently. He was glad to be able to say that the Pharmaceutical Society of Northern Ireland had rapidly attained a high standard of ethical conduct, and its efforts should be supported by a further amendment of the Dangerous Drugs Act which would ensure the regulation of the sale and use of these new and potent organic preparations. Already in some of the Dominions, notably Victoria, Australia, a schedule of potent drugs had been added to their legislation dealing with "dangerous" drugs, to provide for the sale of these potent drugs under safeguards for their proper use. Viscount Charlemont said he did not know it would be competent to incorporate in that Bill the interesting suggestion made by the hon. senator, because the object of that measure was to bring them into line with the decisions of the Geneva Convention. The Bill passed its second reading.

#### Proceedings in the Irish Free State Senate

The Therapeutic Substances Bill passed its final stages in the Senate of the Irish Free State on December 7. On the same day the Committee stage of the Control of Prices Bill was taken. Various amendments, dealing chiefly with administrative matters, were proposed, and one of these was carried.

#### Brevities

Mr. John Connell, Ph.C., is opening a pharmacy at 1A Cregagh Road, Belfast.

Mr. Dermot McGrath, Ph.C., has opened a pharmacy at the Bull Ring, Drogheda.

Mr. J. Caldwell, Ph.C., has opened a pharmacy at 59 Chichester Street, Belfast.

The social event of the Christmas season for Irish pharmacists will be the dance to be held by the Chemists' Golfing Society at the Metropole Ballroom, Dublin, on December 27. Almost every branch of the profession is represented on the committee, which intends to make the dance an outstanding success.

A numerous gathering attended the funeral at Cragh, on December 6, of the late Mr. H. G. Grantham, whose death was recorded in our issue of December 10 (p. 705). Among those present were:—Mr. A. W. Hughes, manager, A. de St. Dalmás, Ltd.; Mrs. Hall, representing A. de St. Dalmás, Ltd.; Mr. T. E. Hannan, representing Mulford's, Philadelphia, U.S.A.; Mr. W. J. Dillon, L.P.S.I., Limerick; Mr. P. A. McMahon, L.P.S.I., Limerick; Mr. J. Madden, L.P.S.I., Skibbereen; Mr. H. T. Whitley, L.P.S.I., Skibbereen; Mr. S. B. Lester, L.P.S.I., Skibbereen; Mr. Arthur Mayne, L.P.S.I., Cork; Mr. T. Blair, L.P.S.I., Cork; Mr. William Whitaker, L.P.S.I., Cork; Mr. M. Tucker, L.P.S.I., Cork; Mr. C. B. Bolton, L.P.S.I., Cork; Mr. J. Faskins, representing Wigglesworth, Ltd.; Mr. E. R. Owens, L.P.S.I., Dunmanway. The numerous floral tributes included wreaths from relatives, from the directors and from the travellers of A. de St. Dalmás & Co., Ltd., Leicester, and from Mr. D. Long, L.P.S.I., Cork. The Irish Chemists' Golfing Society, at a specially convened meeting, passed a vote of sympathy with the relatives of the late Mr. Grantham, on the motion of Mr. J. J. Roche (captain), seconded by Mr. R. Bates. Mr. Grantham was a life member of the Society.

## Topical Reflections

### By Xrayser

#### Dangerous Drugs Legislation

does not appear to be taken too seriously in Northern Ireland, but seems to be regarded as something that must be accepted in order that the population may be kept under the same strict control as in Great Britain. Members of the Northern Ireland House of Commons found some little satisfaction, when the second reading of the Dangerous Drugs Bill was moved, in making fun of esters and pentavalent nitrogen, while showing marked anxiety to secure an opportunity of discussing "Red Biddy"; but the Bill passed its second reading without extension of the debate in the direction indicated, and was subsequently passed through the committee stage and received its third reading without amendment (*C. & D.*, December 10, p. 697).

#### Brighton Goes Ahead

in more ways than one, the latest exhibition of its progressive spirit being shown by the holding of a course of lectures on the British Pharmacopœia, 1932, as reported in the *C. & D.* last week (p. 700). The seven lectures seem to me to have been well planned, and all but the fifth and sixth dealt with aspects of the Pharmacopœia which are entirely new in official medicine. It must be peculiarly gratifying to the promoters of the course to find that not only has it been well supported, but the subscriptions received left quite a good balance in hand after payment of expenses. This augurs well for the successful launching of the new Pharmacopœia in the Brighton medical world, and it ought to be reflected in the intellectual equipment of pharmacy students now in training at the Brighton Technical College. I have observed that the Pharmaceutical Society is also arranging to have a course of lectures on the new B.P., but this is not to commence until next

year, and is likely to be spread over several months. Such tardiness in getting to work must be deprecated, but it is something to be thankful for that the powers that be at No. 17 Bloomsbury Square are awake to the needs of the times.

#### Dead Stock in Pharmacies

is a never-ending source of regret to those who have had the misfortune to accumulate it, and I have been keenly interested in Mr. Gill's letter which appeared last week (p. 721). Mr. Gill himself is evidently fully on the alert to avoid serious loss by the accumulation of unwanted stock, but even he finds it difficult to prevent some proprietary goods from being left on hand, and there is much to be said for his suggestion of a clearing house to which chemists could send their surplus stocks for exchange and redistribution. The idea of having such a clearing house is not absolutely novel, but it still awaits the coming of the organiser of a scheme that would satisfactorily meet the need. My own preference would be for a scheme that included unwanted medicaments, in addition to proprietaries, so as to provide for the disposal of anything for which the demand has fallen off while it is still of definite value. With the risk at present involved of being left with expensive proprietary medicaments no longer wanted, it is perhaps hardly surprising that some chemists prefer to send prescriptions ordering such articles to their wholesale houses to be compounded. As regards one point in Mr. Gill's letter, the necessity at times of procuring specially some drug or compound ordered by its proprietary name, while the same stuff of a non-proprietary variety is actually in stock; where proprietary stock of this kind is left on hand, I see no reason why it should not, failing the possibility of disposing of it satisfactorily otherwise, be used instead of the B.P. or other non-proprietary variety.

## Legal Reports

**Motion for Committal.**—A motion by Phosferine (Ash-ton & Parsons), Ltd., to commit William Thomas Davison, trading as The British Pharmacies, Victoria Arcade, Southend, for contempt of court (*C. & D.*, December 10, p. 698), came before Mr. Justice Farwell in the Chancery Division of the High Court, London, on December 9. Mr. Kenneth Swan appeared for the plaintiffs. Counsel on behalf of Mr. Davidson said that his client had put in evidence in which he excused what was undoubtedly a breach of the injunction, saying that he instructed an advertising agent to make an alteration in the form of the advertisement, and also that he brought into existence a company called Patent Medicines Competitive, Ltd., which took over the various shops owned by him. He had attempted to follow out the injunction. Mr. Justice Farwell said that Davison had undoubtedly been guilty of serious contempt of court. He had, however, offered something in the nature of an explanation and an apology, and the offending advertisements had now been stopped. The case would be met by ordering Davison to pay the costs of the motion.

## New Companies and Company News

**P.C. means Private Company and R.O. Registered Office.**

**BROOK'S DRUG STORES, LTD. (P.C.).**—Capital £2,000. Objects: To acquire the business of a chemist and druggist and retailer of photographic goods carried on by W. H. Brooks at 507 and 509 New Cross Road, S.E.

**J. L. GENWAY, LTD. (P.C.).**—Capital £500. Objects: To acquire the business carried on by W. H. Roden at 59 Coventry Road, Small Heath, Birmingham, and to carry on the business of chemists and druggists.

**CHIVERS TOILETS, LTD. (P.C.).**—Capital £500. Objects: To carry on the business of wholesale chemists and druggists, manufacturers of and dealers in chemicals, drugs and toilet preparations, etc. Solicitors: New & Saunders, Evesham.

**IDRIS, LTD.**—The directors report that the profit for the year ended October 31, 1932, after charging all depreciations, amounted to £18,201 7s. 10d., as compared with £16,938 13s. for the previous year. Balance brought forward £4,511 11s. 6d. The following appropriations are recommended:—Debt interest, £2,100; dividends on A preference shares at the rate of 6 per cent. per annum, £6,600; on B preference shares at 7 per cent., £700; on A ordinary shares at 10 per cent., £5,000; on B ordinary shares at 10 per cent., £1,800; on founders' shares at 5 per cent., £900; leaving a balance carried forward of £5,612 19s. 4d. Two directors, Mr. E. K. Bishop, F.C.A., and Mr. W. J. Bradford, J.P., retire and offer themselves for re-election. Meeting at the Midland Grand Hotel, St. Pancras, London, on Wednesday, December 21, at noon.

**LEWIS & BURROWS, LTD.**—Report of the directors for the year ended September 30, 1932, states that the net profit for the year after providing for directors' and auditors' fees and all other expenses was £9,049 14s., which, with £1,198 13s. brought forward from last year, gives a total available of £10,248 7s. It is proposed to allocate this amount as follows: Depreciation reserve account, £1,000; taxation reserve account, £500; staff benevolent fund, £252 11s.; shops improvement account, £200; dividend at the rate of six per cent. per annum on preference shares, £1,800; dividend at the rate of ten per cent. per annum on ordinary shares, £5,348; carried forward, £1,147 16s. The reserve account now stands at £42,428 3s. 11d. The retiring director, Deputy J. K. Brough, offers himself for re-election.

## Voluntary Liquidations

**Watkins & Laing, Ltd.**, 429B King's Road, Chelsea, London, S.W.10, manufacturing chemists.—The statutory meeting of the creditors of the above was held recently at Essex Hall, London, W.C., when the statement of affairs showed liabilities of £6,150, made up of trade and sundry creditors, £4,950; creditors for goods supplied since informal meeting of creditors, £200, and judgment creditor £1,000. The assets consisted of cash at bank, £56; stock in trade £3,000, estimated to produce £1,200; plant and machinery, £60; fittings and fixtures, £40; motor van, £60; book debts, £2,450; and unpaid calls on shares, estimated to produce £100, making a total of £3,966. After allowing £72 for preferential claims, the net assets were £3,894, or a deficiency of £2,256, so far as the creditors were concerned. The issued capital of the company was £13,555, so that there was a total deficiency of £15,811. It was reported that the assets had been valued on the basis of a going concern, and it had been arranged that the liquidator should sell the assets for a sum sufficient to pay the creditors 12s. in the £ by instalments, as to 4s. in the £ forthwith; 4s. in the £ in four months, and 4s. in the £ in eight months. A resolution was passed confirming the voluntary liquidation of the company with Mr. A. B. Neil, C.A., 22, Queen Street, London, E.C., as liquidator.

**A. Simons, Ltd.**, 16 Albert Road, Levenshulme, Manchester, chemists and druggists.—The statutory meeting of the creditors of the above was held recently at the Houldsworth Hall, Manchester. The statement of affairs prepared by Messrs. Alfred Southern & Co., I.A., Manchester, showed liabilities of £1,926 6s. 6d., made up as follows:—Trade creditors, £516 13s.; rent, £89 3s. 6d.; cash claims, £300; bankers, £1,018; and partly secured creditors, £2 10s. The assets totalled £717 16s. 6d., and consisted of fixtures and fittings, £841, valued at £200; stock, £691 14s. 4d., put down at £450; deposits, £4; cash and cheques in hand, £36 3s. 10d.; and book debts, £27 12s. 8d. After allowing £55 18s. 3d. for preferential claims, the net assets were £661 18s. 3d., or a deficiency of £1,264 8s. 3d. It was stated that the shareholders had already passed resolutions for voluntary liquidation, and had nominated Mr. A. Southern as liquidator. The company was registered in May, 1930, with a nominal capital of £1,000. Shares to the value of £500 were issued as fully paid to the vendor of the business taken over by the company. The balance of the capital was issued for cash. During the year to May, 1931, the turnover was £3,560, with a gross profit of £1,325, but after allowing for all the expenses, there was a net loss of £161. In the following year the sales fell to £3,061, the gross profit went down to £1,002, and there was a net loss of £480. Since May of the present year the turnover had been £1,291, with a gross profit of £16, and a net loss of approximately £600. It was pointed out that the company had had various branches from time to time, but they had not been successful, and had been closed down. Resolutions were passed confirming the voluntary liquidation of the company, with Mr. Southern as liquidator. A committee was also appointed.

## Gazette

### Bankruptcy Acts

#### RECEIVING ORDERS AND ADJUDICATIONS

**KENDALL, A. H.**, 74A Croft Street, Hyde, Chester, chemist's assistant.

**JONES, S. D.**, 42 Neville Street, Cardiff, and lately of Coedrhdyglyn, Pontywell, near Cardiff, and 63 Oxford Street, Pontycymmer, chemist.



# Christmas Holidays

WE understand that the following wholesale houses will close on Saturday, December 24, about mid-day, and will reopen on Wednesday morning, December 28, unless otherwise stated:—

Allen & Hanburys, Ltd., Bethnal Green, E.2. (Urgent orders can be executed at 7 Vere Street, W.1. Mayfair 2216.)

Allen, Stafford, & Sons, Ltd., Cowper Street, E.C.2  
Arnfield, J. C., & Sons, Ltd., Princes Street, Stockport.  
Ayrton, Saunders & Co., Ltd., Liverpool. (Stocktaking December 29-31, urgent orders only.)

Baiss Brothers & Co., Ltd., Bermondsey, S.E.1.  
Bayer Products, Ltd., St. Dunstan's Hill, E.C.3. (Urgent orders from John Bell & Croyden, 50-52 Wigmore Street, W.1.)

Bell, John, Hills & Lucas, Ltd., Tower Bridge Road, S.E.1.

Berton, Arthur, Ltd., 256-260 Old Street, E.C.1 (Friday evening, December 23, reopen Thursday, December 29.)

Bourjois, A., et Cie, Ltd., 4 Water Lane, E.C.4.  
Bredt, W., Ltd., 38 Great Tower Street, E.C.3.  
British Drug Houses, The, Ltd., Graham Street, N.1.  
Britton, Malcolm & Waymark, Ltd., Southwark Bridge Road, S.E.1.

Brooks & Warburton, Ltd., 232-240 Vauxhall Bridge Road, S.W.1 (also December 31 for stocktaking).  
Burge, Warren & Ridgley, Ltd., Great Saffron Hill, E.C.1 (until Thursday morning, December 29).

Burgoyne, Burbidges & Co., Ltd., East Ham, E.6 (also December 30-31 for stocktaking).

Burroughs Wellcome & Co., Snow Hill Buildings, E.C.1.  
Butler & Crispe, 80-82 Clerkenwell Road, E.C.1.

Castle Huskisson, Ltd., Islington, N.1.

Christy, Thomas, & Co., Old Swan Lane, E.C.4.  
Clayton Aniline Co., The, Ltd., Southwark Street, S.E.1. (Urgent orders from John Bell & Croyden, 50-52 Wigmore Street, W.1.)

Coates & Cooper, Ltd., 94 Clerkenwell Road, E.C.1.  
Continental Laboratories, Ltd., 30 Marsham Street, S.W.1.

Davenport, J. T., Ltd., Union Street, S.E.1 (Friday evening, December 23).

Dearborn (1923), Ltd., Gray's Inn Road, W.C.1 (Friday evening, December 23).

Edwards, W., & Sons, Nile Street, City Road, N.1.  
Eno, J. C., Ltd., 160 Piccadilly, W.1 (Friday evening, December 23)

Evans Sons Lescher & Webb, Ltd., Bartholomew Close, E.C.1.

Ford, T. H., Ltd. Falcon Square E.C.1.

Gale & Co., Ltd., Bouverie Street, E.C.4.

Goodall, Backhouse & Co. Leeds.

Guest, T., & Co., Ltd., Manchester.

Hay, J. B., & Co., Ltd., 47 Rupert Street, W.1.

Heward, R. H., & Co., Twickenham.

Hewlett, C. J., & Son, Ltd., Charlotte Street, E.C.2 (also December 28-30 for stocktaking, urgent orders only executed).

Hoffmann-La Roche Chemical Works, Ltd., 51 Bowes Road, N.13. (Urgent orders day and night from John Bell & Croyden, 50 Wigmore Street, W.1, and Mr. R. W. Brooke, 19 Gloucester Road, S.W.7.)

Horner, L. A., & Sons, South Tenter Street, E.1.

Hough, Hseason & Co., Manchester.

Howards & Sons, Ltd., Ilford (also December 30 and 31 for stocktaking).

Johnson & Sons, Manufacturing Chemists, Ltd., London, N.W.4.

Kerfoot, Thomas & Co., Ltd., Bardsley and London (Friday evening, December 23).

Lofthouse & Saltmer, Ltd., Church Lane, Hull.

Macfarlan, J. F., & Co., 32 Bethnal Green Road, E.1 (also January 2.)

Mallagh & Co., London, S.E.1 (Friday evening, December 23).

Maw, S., Son & Sons, Ltd., Aldersgate Street, E.C.1.

May, Roberts & Co., Ltd., Clerkenwell Road, E.C.1.

Meggesson & Co., Ltd., New Church Street, S.E.16.  
Menley & James, Ltd., 64 Hatton Garden, E.C.1. (Friday evening, December 23.)

Morson, Thomas, & Son, Ltd., Gray's Inn Road, W.C. (Works and warehouse from Friday evening, December 23, to Wednesday morning, December 28.)

Napp, H. R., Ltd., Clement's Inn, W.C.2. (Urgent orders can be executed by Rouse & Co., Ltd., 12 Wigmore Street, W.1, and by Mr. R. W. Brooke, 19 Gloucester Road, S.W.7.)

National Drug Industries, Ltd., Emmott Street, Mile End, London, E.1.

Newbery, Francis, & Sons, Ltd., Charterhouse Square, E.C.1.

Oppenheimer, Son & Co., Ltd., 51 Clapham Road, S.W.9.

Parke, Davis & Co., Beak Street, W.1.

Phil-Sano Co., Ltd., Kingsway, W.C.2 (Friday evening, December 23).

Potter & Clarke, Ltd., Artillery Lane, E.1.

Reuter, R. J., Co., Ltd., Carter Lane, E.C.4. (Closed on Saturday, December 31, for stocktaking.)

Sangers, 258 Euston Road, N.W.1.

Savory & Moore, Ltd., Lawrence Road, N.15 (John Bell & Croyden, continuous day and night service maintained throughout the holiday for urgent requirements).

Schering, Ltd., Lloyd's Avenue, E.C.3.

Smith, T. & H., Ltd., Christopher Street, E.C.2 (also January 2).

Solport Brothers, Ltd., Goswell Road, E.C.1. (Friday evening, December 23, also December 30 and 31 for stocktaking.)

Sparks, White & Co., Ltd., Tenter Street, E.1.

Stevenson, H. E., & Co., Great Suffolk Street, S.E.1. (Friday evening, December 23.)

Thurley, G. E., & Sons, Forest Gate, E.7. (Friday evening, December 23.)

Tompkins, James, Ltd., City Road, E.C.1.

Toogood, William, Ltd., Southwark Street, S.E.1 (also December 29-30 for stocktaking).

Tyrer, Thomas, & Co., Ltd., Stratford, E.15. (Friday evening, December 23.)

United Chemists' Association, Ltd., Cheltenham and London. (Mid-day on Friday, December 23.)

Viscose Development Co., Ltd., Woldham Road, Bromley, Kent (Friday evening, December 23, also December 28-31 for stocktaking).

Wilcox, Jozeau & Co. (Foreign Chemists), Ltd., 15 Great St. Andrew Street, W.C.2.

Willows, Francis, Butler & Thompson, Ltd., Shackwell Lane, E.8.

Winchester Manufacturing Co., Ltd., 21 The Square, Isleworth.

Woolley, James, Sons & Co., Manchester.

Wright, Layman & Umney (1932), Ltd., 44-50 Southwark Street, S.E.1 (also December 29-31 for stocktaking).

The offices of THE CHEMIST AND DRUGGIST will be closed on December 24, 26 and 27

**CODEx REVISION COMMITTEE.**—M. Radais, dean of the Paris Faculty of Pharmacy, has been nominated vice-president of the Codex Revision Committee. A new rule provides that any member of the Committee absent from four consecutive sittings without excuse shall be considered as having handed in his resignation.

**A DISPLAY NOVELTY.**—The use of small automatic figures for advertising goods is familiar to us all, but the "human automaton," employed by a Parisian pharmacy to advertise an insecticide, is a novelty. A young man, suitably tanned and dressed in the whites of the tropics, steps into the window, which contains a table, a metal tray and a spray. With an amusing and fairly accurate imitation of the jerky movement of an automaton he presents a printed card stating that even that hardest of insect pests, the black beetle, cannot survive a dose of the insecticide. From a receptacle behind him he extracts a living insect, and after allowing it to crawl about the tray to prove its activity, he administers the dose, and the victim is executed in the presence of the public.



# Festivities

## Hull Supper and Dance

THE annual supper and dance of the Hull Chemists' Association was held on November 30; about 140 members and friends were present. Mr. E. A. Brocklehurst again acted as M.C.

## Manchester Dance

THE dance organised by the Junior Branch of the Manchester Pharmaceutical Association, held on December 7, was an outstanding success; over 160 members and friends attended. During an interval, music was provided. The organisers, Mr. Steinman, Mr. Maskell and a committee, are to be congratulated on the result of their efforts. Mr. Phillipson acted very efficiently as M.C.

## Staff Function

A SOCIAL and dance was held on December 8 at the Lysbeth Hall, Soho Square, London, W.1, for the staff of Savory & Moore, Ltd. (John Bell & Croyden), and associated pharmacies. Mr. and Mrs. E. T. Neathercoat were present during part of the evening, and prizes for spot dances and lucky numbers were presented by Mrs. Neathercoat. About 212 were present, and a most enjoyable evening was spent.

## Newport Dance

THE winter session of the Newport and Monmouthshire Chemists' Association and Branch opened with an enjoyable dance at the Westgate Hotel. A novelty was introduced, to take the place of the usual spot dance, in the form of a drum of fortune. The prize-winners were Mrs. W. H. Edwards (Caerphilly) and Mr. A. C. Jenkins (Newport). The M.C.s for the dance were Messrs. C. C. Giles and R. Shelley, while the whist was directed by Mr. Ben Evans. The company included Mr. H. N. Linstead (secretary of the Pharmaceutical Society).

## Manchester Masonic Function

THE first ladies' evening of the season under the auspices of the Manchester and District Pharmaceutical Masonic Association was held at the Grand Hotel, Manchester, on November 30. Between seventy and eighty guests were received by the chairman (Wor. Bro. J. Bridgford) and Mrs. Bridgford. Whist followed

dinner. The prize-winners were as follows:—*Ladies*, (1) Mrs. W. Bradshaw, (2) Mrs. R. Millner; (hidden number), Mrs. F. D. Gee; (highest single score), Mrs. E. Collins. *Gentlemen*, (1) Bro. H. Reid; (2) Bro. W. J. McCutcheon. The following toasts were proposed:—"The Chairman," by the retiring chairman (Bro. H. Bellinger); "The Ladies," by the vice-chairman (Bro. R. L. Balf); "The Visitors," by Mrs. F. D. Gee. The replies were by the chairman, Mrs. Bridgford and Bro. D. Walker respectively. Dancing followed until midnight, when "Auld Lang Syne" brought a successful evening to a close.

## South of England College Social

THE social evening and dance held by the Sports and Social Club of The South of England College of Pharmacy was a most enjoyable and successful event; about 160 guests were present. Dancing proceeded until 11.45 p.m. Mr. H. Lucas (principal) had pleasure in presenting the spot dances prizes. His popularity with the students was demonstrated by their singing "He's a jolly good fellow" at the end of the evening. The guests were entertained and amused by the "yells" of various colleges, which were represented, during the evening. Mr. C. Kemplay was M.C. for the dance.

## Glasgow Pharmacy Club

THE increasing popularity of the whist drives held by the Glasgow Pharmacy Club was again manifest in the large turnout of members and friends on December 6. The vice-president (Mr. D. Black) conducted the proceedings in the absence of Mr. McGillivray (president). Twenty-four hands were played with an interval for tea. After the game Mr. Black entertained the company with stories. The prizes, which were given by Mr. J. G. Moss (J. Thomlinson, Ltd., Partick), were presented to the following winners by Miss Moss:—*Ladies*, (1) Mrs. J. Williamson; (2) Miss E. Gow; (3) Miss A. Heron; (consolation), Miss V. Crawford; (lady playing as gent.), Miss MacCallum. *Gentlemen*, (1) Mr. P. Davidson; (2) Mr. Duncan McLean; (3) Mr. J. D. Mackenzie; (consolation), Mr. W. Peebles. Special prizes were won by Mrs. Sutherland and Mr. Donald Dick, and mystery prizes by Miss Cullen and Mr. Jas. Crombie.



AT THE MANCHESTER PHARMACEUTICAL MASONIC ASSOCIATION'S DINNER



### Cheltenham Pharmacy Ball

THE annual pharmacy ball under the auspices of the Cheltenham and District Branch of the Pharmaceutical Society, in aid of the Benevolent Fund, was held in the Town Hall, Cheltenham, on December 8, and proved to be a very successful function. The company included Mr. F. Gladstone Hines (president of the Pharmaceutical Society), Mr. P. F. Rowsell (a member of the Society's Council), Mr. R. A. Cheshire (chairman of Cheltenham Branch), the Mayor of Cheltenham and the Mayoress, and Mr. H. Lyne (president of Cheltenham Rotary Club). An interesting feature of this function was the rendering, as a duet, of a waltz specially composed for the occasion by Mr. Harold Chipp, chemist and druggist. The M.C.s were Mr. F. H. K. Wilde and Mr. A. J. Holloway (joint secretaries) and Mr. J. L. Goulder.

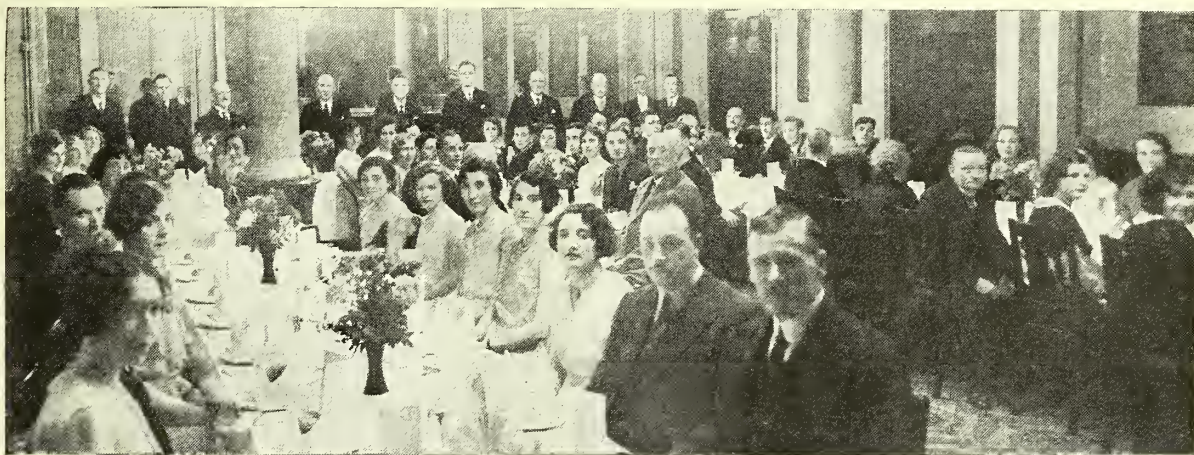
### Meggeson Staff Dinner

THE employees of Meggeson & Co., Ltd., held a dinner at Anderton's Hotel, Fleet Street, London, E.C.4, on December 3; there were about 100 present. The secretary of the company (Mr. W. G. Kay) was in the chair. The guests on this occasion were Mr. H. Vincent Dodd (chairman of the company), Mr. Randolph Dodd and Mr. R. Campbell Feather (directors). After the loyal

refreshments, was enjoyed until midnight. A vote of thanks to the Ladies' Committee was proposed by the president (Mr. J. Milner); Mrs. Price replied. Mr. E. G. Price acted as M.C.

### Cardiff Annual Dinner

THE twenty-eighth annual dinner of the Cardiff and District Pharmacists' Association and Branch of the Pharmaceutical Society was held on December 7, when about 120 members and friends attended. The president (Mr. R. Robinson) was in the chair, and was supported by the deputy Lord Mayor (Councillor W. G. Howell), Mr. F. Gladstone Hines (president of the Pharmaceutical Society), Mr. John Rowland (chairman of the Welsh Board of Health), Mr. O. Temple Morris, M.P., Lieutenant-Colonel Owen L. Rhys, M.D., Mr. F. Webber, Principal Coles, and others. The arrangements were in the hands of Mr. W. Gwynne Wigley (secretary). Messrs. T. Thomas, E. Poole, J. Murray, J. D. Jenkins and R. L. Hopkins were in charge of the spur tables. The president, in submitting the toast of "The Pharmaceutical Society," expressed gratitude that the Council had made much progress during the past few years. He thought that pharmacists should receive distinct recognition in the Army and Navy services, in which commissions should be granted. Mr. F. Gladstone Hines,



Photo]

THE COMPANY AT THE MEGGESON DINNER

[Press &amp; Publicity

toasts had been honoured, that of "Our Guests" was proposed by the works manager (Mr. H. A. Green), who referred to Mr. Vincent Dodd as "the captain of the good ship Meggeson." He recalled that at the recent annual outing the employees had presented a pair of field-glasses to Mr. Dodd. He now had much pleasure in making a presentation to Mr. R. Dodd and Mr. R. C. Feather of gold-mounted umbrellas, suitably inscribed with their names and the date of the occasion. Responding, Mr. H. Vincent Dodd remarked that the presence of such a happy family on that occasion was symbolic of the goodwill and cordial relations which existed between the directors and the staff. Messrs. R. Dodd and R. C. Feather made suitable acknowledgments of the presentations made to them. The health of the chairman was then proposed by Mr. S. T. Lea (foreman of the pastille manufacturing department). Mr. W. G. Kay responded, and hoped that this would be the forerunner of many more similar occasions. A most enjoyable evening was brought to a close by a musical programme.

### South-Eastern Ladies' Night

THE ladies' night of the South-Eastern (London) Associations was held at Chiesma's Restaurant, Lewisham, on December 1. The attendance was greater than on any previous occasion, and the spirit of the party was of a particularly happy character. Dancing commenced at 7 p.m., and, apart from the interval for

in responding, said the Society was putting forth energies on very important domestic reconstruction. He referred to the need for larger and more up-to-date premises. He was of opinion that when the new headquarters were erected, they would be premises of which all the members would be proud. Mr. Alec S. Johnson, J.P., in proposing "The City of Cardiff," gave interesting details of the growth of the city during the past half-century. The deputy Lord Mayor, responding, said he could sense increasing indications of returning prosperity. Mr. John Rowland proposed "The Cardiff Pharmacists' Association," and paid tribute to the loyalty of the chemists of the country. It was through them, he said, that the success of the Insurance Act was assured. Mr. J. Lee Jones (vice-president) responded. He regretted that the younger generation of chemists were not so attentive as their predecessors to the calls of the Association. "The Ladies" were toasted by Mr. O. Temple Morris, M.P.; Councillor Captain James Griffiths, J.P.; responded. The toast of "The Visitors and Kindred Associations" was submitted by Mr. A. J. Harris, to which Lieutenant-Colonel Owen L. Rhys and Mr. Frank Webber (president of the Cardiff Publicity Club) responded. Dancing followed the dinner, and during an interval the golf trophies, won during the summer, were presented as follows:—The Newbery cup and replica to Mr. J. Fowler; the Allenbury cup to Miss Masie Murray and Mr. James Murray; the Tory bowl to Mr. Davies and partner.



# Association Meetings

**Aberdeen.**—A meeting of the Aberdeen Pharmaceutical Association was held on December 6, the president (Mr. M. K. Watt) in the chair. There was a large attendance. Consideration was again given to the Association prize scheme for the evening class students of the School of Pharmacy. Mr. Robert Hunter was appointed local secretary of the Proprietary Articles Trade Association. It was agreed to hold a dinner and dance early in the New Year. Discussion took place on the matter of welfare supplies, and it was arranged to interview the medical officer.

**Brighton.**—On December 6, Mr. G. A. Mallinson, secretary of the National Pharmaceutical Union, addressed the members of the Brighton and Hove Association of Pharmacy, Mr. J. K. Padwick (president) in the chair. Earlier in the evening an account of Mr. Edgar Jones's scheme for local advertising had been given. The president said that it was not considered advisable by the committee to proceed further with the local scheme until they had had an opportunity of hearing in fuller detail an account of the N.P.U. scheme for national advertising. Mr. Mallinson, in a speech which held his audience throughout, gave in some detail the scheme proposed by the N.P.U. for advertising on a national basis. Mr. Mallinson said that this scheme was not a business proposition, but a sound scheme to improve the conditions of pharmacy. The private pharmacist was never in greater need of publicity than he was to-day, and the time had come when it was absolutely necessary for the public to realise how much they owed to the private chemist, who had carried out a duty to them faithfully for many generations. It was necessary for obvious reasons that this scheme should be run independently. In view of the objection that it was against the dignity of the pharmacist to advertise in this manner, he pointed out that this was being done to-day in Germany; it was also being started in France. In New South Wales a scheme almost identical with the one which it was proposed to inaugurate here was being carried out, and also in Natal. One way of carrying out a scheme was:—(1) To form a special publicity association. (2) To restrict membership to members of the association. (3) To have an initial subscription of £1 1s. for membership. (4) Pamphlets would be provided for distribution from the pharmacy. (5) Private advertising could be censored at headquarters, and advice given by experts. All the expense that it might involve, if well supported, would amount to about 3d. a head per day. At the conclusion of his speech a lively discussion took place, Mr. Mallinson replying in his effective manner. The following resolution: "The meeting of the Brighton and Hove Association of Pharmacy approves the principle of the scheme of national publicity, and desires the N.P.U. to go forward with the same," was proposed, together with a vote of thanks to Mr. Mallinson, by Mr. J. E. Vickers.

**Edinburgh.**—A meeting of the Edinburgh Chemists', Assistants' and Apprentices' Association was held on December 9, Mr. W. A. Beattie (vice-president) in the chair. Mr. J. J. Blackie (president) gave an interesting address, entitled *A Review of the British Pharmacopœia, 1932*. The B.P., 1932, he said, presented many new features, and was a great improvement on previous editions. For the first time pharmacists had an effective say in its preparation, and the result of their labours was reflected in the volume. The most outstanding features of the new edition were (1) the large number of deletions and the comparatively small number of additions; (2) the improvement in the general get-up of the book and the layout of the monographs; (3) the improved tests for identity and tests for purity; (4) the increased number and greater elaboration of assays and the inclusion of biological methods of assay; (5) the elaborate appendix, chiefly concerned with the testing of drugs; (6) the recognition of industrial methylated spirit

in the preparation of liniments and for certain extracts; (7) the recognition of concentrated waters and infusions; (8) the introduction of vaccines, serums, tuberculin and other substances. Mr. Blackie then proceeded to give a general view of the galenicals, drugs and chemicals. The address was illustrated by a series of the new preparations which Mr. Blackie had prepared. No special difficulty had been encountered in regard to any particular preparation. On the motion of Mr. Stout, seconded by Mr. Rutherford Hill, a cordial vote of thanks was awarded to Mr. Blackie.

**Hull.**—A well-attended meeting of the Hull Chemists' Association and Hull and District Branch, augmented by students and by members of the medical profession, was held on December 6. Dr. C. H. Hampshire (secretary of the Pharmacopœia Commission) lectured on *The British Pharmacopœia, 1932*. The lecturer replied to many questions and criticisms. The president (Mr. S. T. Boyce) was in the chair.

**London (S.W.).**—A meeting of the South-West London Chemists' Association and Branch was held on December 12, when Mr. H. N. Linstead (secretary of the Pharmaceutical Society) gave a short talk on the British Pharmaceutical Conference to be held in London in 1933. Mr. Linstead sketched the proposed programme and made an appeal for financial support. Following the appeal, a lantern lecture on *London's History and Romance* was given by Mr. E. Neville Browne. Mr. E. Skues, who is standing for election to the Council of the Proprietary Articles Trade Association, addressed the meeting, outlining his policy. A resolution to the effect that the South-West London Chemists' Association would do all within its power to secure the return of Mr. Skues to the P.A.T.A. Council was proposed, seconded and passed unanimously. Mr. H. G. Tibbett opened a short discussion upon *Co-operative Buying*. Votes of thanks were accorded to all the speakers and to Mr. Mills, who provided and worked the lantern.

**Scottish Pharmaceutical Federation.**—A meeting of the Executive Council of the Federation was held in Edinburgh on December 9, Mr. A. A. Dick (president) in the chair. Applications for membership were submitted and passed. Among other matters, the following were under consideration:—Various N.H.I. test prescription cases. Indemnity claims:—(1) For £200 against a member who dispensed lin. alb. instead of white lint, the doctor's prescription being written as "lin. albu." Not yet settled. (2) For £750 against a member who dispensed allonal tablets instead of adalin tablets. Settled for £50 and expenses. (3) For £3 19s. 6d. against a member by a lady whose coat was torn by wire protruding from a box left by his message-boy. Settled for £1 10s. (4) Against a member whose assistant in error picked up and labelled as "Oil of Wintergreen" a bottle containing lysol. Settled for £7 and £2 2s. legal expenses. A deputation was appointed to meet the Pharmaceutical Standing Committee (Scotland) with a view to having a discussion as to the best method of dealing with clinics' supplies. A member's complaint on having his name deleted from the approved list of photographic dealers was considered, and the subject of Scottish wholesale chemists and the prices charged by them for certain proprietary articles being in excess of (a) the minimum wholesale price per the P.A.T.A. Year-Book, and (b) the prices charged by English wholesale chemists. Correspondence with the P.A.T.A. and the secretary of the Scottish Wholesale Chemists' Patents Agreement was read. It was agreed to write to the P.A.T.A. suggesting that arrangements should be made whereby two Scottish chemists should be elected by Scottish chemists to the P.A.T.A. Council. Considerable correspondence with the P.A.T.A. and manufacturers of certain lines regarding price-cutting complaints by members was also dealt with.



# The Drift of the Times and Pharmacy

Abstract of, and discussion on, an address delivered at Liverpool on December 7 by Mr. T. Edward Lescher, O.B.E., M.P.S.

WE are facing the third year of a crisis which has reduced the trade of the world by one-half and thrown, on an estimate, 30,000,000 workers out of employment. In our own country the ratio of national taxation to national income has increased from 7 per cent. in 1913 to something like 25 per cent. in 1932. The growth of local taxation is scarcely less striking, and has been particularly in evidence during recent years. In 1914 the total official debt outstanding was £563,000,000, and even in 1921 it was no more than £658,000,000. By 1930 this latter total had nearly been doubled, the outstanding debt having reached the enormous aggregate of £1,225,000,000.

The individual feels himself powerless, acting alone, against forces whose scope is international, and looks aghast at the meagre results produced by international conferences of the world's statesmen. A group of leading economists, in a recent letter to "The Times," has drawn public attention to the duty of the individual to ameliorate the position by wise spending. Some of their conclusions have been challenged by another group of economists connected with the University of London, the point of dispute being a conflict of opinion on what is wise spending, first on the part of the individual, and secondly by municipal authorities. It is common ground that much of the latter expenditure, undertaken at the time to give employment, has failed in its object; the cost of the schemes has been generally out of proportion to the wages distributed, leaving a burden of debt to be paid by the present and future generations, thus aggravating the position.

## ADJUSTMENT TO PROGRESS

On a recent occasion I dwelt upon the importance of analytical control in the manufacturing laboratory; analytical control over the products he handles is the sheet-anchor of the pharmacist in the maintenance of the guarantee which he assumes in his relations with the public. Underlying what I had to say in elaborating my argument was the advocacy of the principle that we should endeavour to adjust ourselves and our practice to the progress of events. A great deal has happened since I last addressed you, some four years ago; and if there ever was a time when the intelligence of man was taxed to diagnose the complaint from which the body politic is suffering and when his ingenuity was strained to the uttermost in an endeavour to solve the problems which his diagnosis has discovered, that time is to-day. Old ideas, held with the tenacity of faiths, are proving inadequate to the times. Standards which were once held as the foundation-stones of practice are proving unsound and incapable of supporting the structure that is at present in course of building. I feel that we are passing through what I may perhaps call a spasm in evolution. There is a movement, international in scope, national in application, struggling to burst into a new growth. We see this manifested in our own internal politics; in conferences between the nations; in social matters; in science, in art, and in economics; in conceptions materialistic and spiritual. Evolution by no means necessarily implies progress.

The historian of the future will mark the post-war period as the beginning of a new order, definitely as a rearrangement of civilisation. But whatever view we may take of current events, I think it is useless to contemplate a return to the particular brand of prosperity which we have known in the past. We frequently see reference to a "return to prosperity," as if there was a prosperity belonging to a past cycle which could be recaptured and brought back into our daily lives. To my mind, it is not a return in this sense that we must look for, but rather the growth of an entirely new

prosperity based upon an altered condition of affairs and the ability which we as individuals show in grasping new opportunities as they are arising.

Leaving the general for a more particular line of thought, an announcement last month that after detailed negotiations with the London County Council an alteration in the status of pharmacists in connection with the hundred hospitals and institutions under their control had been decided upon shows the appreciation by an important public body that the dispensing service should be rendered by or under the direct personal supervision of a registered chemist. This action may be commended to other administrative bodies throughout the country.

## THE STRONGHOLD OF PHARMACY

In his presidential address this year at the British Pharmaceutical Conference, Mr. Herbert Skinner dwelt upon the opportunities which a hospital pharmacist has in linking up pharmacy with medicine, particularly in connection with the new developments on the biological side. I think that he is right in stressing this point, and that the stronghold of pharmacy in the future will be in the hospitals and institutions of this country. When one takes a broad view of the lines along which medical treatment is progressing, one cannot see any alternative. You will ask me if I mean that the business of the pharmacist, as we know it to-day, will decline. I do not mean that, but I think that it may undergo very marked changes in character. Does it not stand to reason that changes in medicine and medical treatment must bring change in pharmacy? And if that is true, should we not face facts as they are and endeavour to meet coming events rather than sit down with regrets and misgivings about things which are irrevocably passing away? I would venture the opinion that the Council of the Pharmaceutical Society has been very wise in developing its educational policy—directing a growing future rather than supporting a declining past. "The old order changeth, yielding place to new."

The drift of changing conditions must be very striking to some of the older pharmacists when they look back to their early days. Those of us whose first acquaintance with pharmacy was made under the régime of the 1885 Pharmacopœia will appreciate this most. In the latter days of the 1885 B.P., and throughout the course of the 1898 Pharmacopœia, our journals were full of pharmaceutical articles. Such names as Dr. Symes, Charles and John Umney, Farr and Wright, pass through one's mind. We were constantly reading of new methods of preparing drugs, of improvements in galenical practice, of the keeping properties and the assay of drugs. There were discussions on infusions, spiritus and aqueous tinctures. I remember when such bodies as iridin and euonymin were to the fore, and when mixtures such as bismuth with pepsin, bismuth with cerium oxalate and other combinations of this sort created some stir in the pharmaceutical world. But have they held their position to-day? Numbers of these older preparations are hardly known to the younger pharmacists; they have had their day, and many of them have vanished for all practical considerations.

To-day the tendency is for the introduction of newer medication to come not from the pharmaceutical but from the biological laboratory, and the development is followed out in the hospitals and institutions. If that is a correct statement of the position, it takes no great insight to predict a deep-seated change in the pharmacy of the future. The dispensary and the manufacturing laboratory were, once upon a time, under one roof. To-day, for all practical considerations, they have each a separate existence, and can never be united



in the old sense. I know this is a matter of regret with many pharmacists, who feel they are deprived of part of their legitimate function, that of manufacturing the preparations for which they are held responsible. But this outcome results from the force of economic law which we are powerless to oppose; and, as in other occupations, having received a proper grounding in the essentials of our occupation, it may be a matter of chance or personality which causes us individually to gravitate into different spheres of our calling.

#### THE NEW PHARMACOPŒIA

The 1932 Pharmacopœia is an index pointing in this direction. The new B.P. has been described as a "wholesaler's book," suggesting that it has been so designed as to convey some beneficial monopoly to the wholesale manufacturer; but I am not prepared to accept that view. It is designed in keeping with the spirit of the times. I see in it an endeavour to sift out the real from the imaginary, to establish medicines of known virtue, and to reject those of questionable or little merit. And in doing this it has sought also to define the *materialia medica* in such a way as to prevent any unjustifiable latitude being taken in the interpretation of its requirements. At the same time it has accepted current practice which has been able to justify itself as being both sound and appropriate, which hitherto was not permitted recognition. As an instance, there is the acceptance of the concentrated infusions, and the use of methylated spirit in the preparation of galenicals. Galenicals go and biological material is added. Development along biological lines, and all that this involves before the product can be delivered to the dispensary, is beyond the scope of the ordinary laboratory dealing with the manufacture of galenicals. But it is still pharmacy, and pharmacists in the coming generation should find their place within the circle of this work.

I believe the drift of the times to be towards realities, together with a rather painful process of uprooting and casting away of those things which belong to the "hit or miss" category. If all this is true, you will ask "How are we to improve our immediate position and achieve that plenitude of good things of this world which we so much desire?" I am sorry that I have no cut and dried recipe. Perhaps the desired good things may not come at all to us of this generation; but whether they are to come or not, the only way by which I conceive their advent can be induced is by an endeavour to sort out from the general drift those lines of progress and the order of events which nature means to follow, and to associate ourselves with them. "Tot homines quot sententiæ." The only thing that appears certain is that there is no "drift" to-day but that the stream of change is in full flood, and therefore my title "the drift of the times" is a paradox.

#### Discussion

The PRESIDENT (Mr. H. Humphreys Jones) said Mr. Lescher had taken a broad outlook on many things. He (the president) was old enough to remember the 1885 Pharmacopœia. He knew the 1898 and 1914 editions very well. One had a tendency always to look back, but it was possible to look too much into the past. It was no use saying that the lot of the pharmacist was worse than it was in bygone times. This life was a school of experience, and he believed that out of the fiery furnace would emerge a finer thing.

Mr. HAROLD WYATT said Mr. Lescher had shown them the difficulties under which they laboured. They had to recollect that they were in pharmacy for life, and it became what they made of it individually. The way to make it better was to examine any new proposition and get from it what they considered to be best. They should make themselves efficient, and the only things that would make them so were knowledge and practice. When they qualified they were only theoretically pharmacists, but by degrees they became the perfect pharmacist—and that was just about the time they died. (Laughter.) They should remember, as they grew older, not to become too cynical. They should believe in youth, and never seek to tread down their fellow pharmacists. The innovations to-day, so far as

he could see, were standardisation and new bacteriological preparations, some of which had no doubt come to stay. He did not believe in casting a slur on the wholesalers. At one time they got new ideas from the Continent or from America. In this country we had a judicious combination of research and advertising; and when the advertising was done in a proper manner, it was to the advantage of the chemists. Unfortunately, the tendency was to trust to special preparations, a knowledge of which was obtained from good advertising. If they got a doctor and trained him in the way he should go, he was quite an asset to the chemists, and through the chemists to the patients. The old scientists did wonderful work with imperfect apparatus. When they reflected on that, and thought of the advantages they were enjoying in research and the results of it, there was still something for them to do. A paper such as they had just heard ought to renew their enthusiasm, and make them more temperate, more moderate, and more just to the aspirations of the younger generation. By degrees their young men ought to carry pharmacy further than the older generation ever thought possible. They were going through hard times for the younger generation, but a similar stress in years gone by was countered by indomitable perseverance. They could evolve from seeming chaos progress for the general good.

Mr. JOHN RAE said Mr. Lescher had given them a great deal to think about. Biological standardisation was bound to come. Whether it would be quite as big a success as Mr. Lescher appeared to think he (the speaker) was not certain. He would instance liquid extract of ergot as being anything but a success. It might be better to leave it to the manufacturer or the pharmacist to do the best they could with a drug than to be slavishly going out to get the best percentage of one particular alkaloid. He had recently been reading some of the papers of Michael Conroy, which he considered a triumph for the older generations of pharmacists.

Mr. S. VALINS remarked that they were hearing too little about the practical side of pharmacy. Most of them were mere salesmen, and did not get much chance of coming in contact with the biological side of things. The young students of to-day were given to understand that there were all sorts of openings in pharmacy, but they soon found out that this was a delusion. If there was going to be a surplus of biological work, it was the doctors who were going to get the whole of it, and not the pharmacists.

Mr. TRISTRAM said he had expected a different paper from Mr. Lescher, who might have shown them if they had a future.

Mr. D. H. EVANS said he also had been somewhat disappointed in the paper. There were 20,000 men on the Registers of the Pharmaceutical Society. It would be interesting to know how many of them were engaged in hospitals and on pharmaceutical products. If they did away with the side-lines and applied themselves to pharmacy, it would be far better. He believed that glandular products were merely a passing phase. He had much pleasure in proposing a vote of thanks to Mr. Lescher for his paper.

Miss DOBIE, who seconded, said she had had some experience of pharmacy in hospitals, and her opinion was that it was only when they got into a hospital that they began to know what pharmacy really was. They came in contact there with serums and new drugs which ordinary people could not afford. They also came in contact with young doctors who were anxious to learn, and it depended very much on the hospital pharmacist as to how they went out into the world.

Mr. M. S. HUGHES, who supported, said he had spent some time in hospital work, and he had formed the opinion that medical men were not getting the proper education in the Universities.

Mrs. MORETON PARRY expressed the view that very much of what the hospitals supplied to patients should be bought in the shops.

Mr. ALEX. RAE remarked that in his experience the hospital supplied drugs to the poor only, and not to people who could afford to pay the pharmacist for dispensing the prescriptions.



Mr. MORRIS said he thought there was a great future for pharmacy.

Mr. ARTHUR JONES remarked that he had been asking himself if they were engaged in the profession of pharmacy or in the trade of pharmacy.

Mr. DALRYMPLE also spoke in support of the vote of thanks, which was accorded with applause.

### Reply

Mr. LESCHER, in replying, said he was delighted that his paper had proved so controversial. His idea had been to put forward his views of the future at a time when they were seeing a spasm of evolution in the world

in every form, both moral and spiritual. He did not prepare his paper with the idea of setting down things as he saw them, but he was anxious to show that evolution did not necessarily mean improvement. Evolution brought changes which might be wrong. Because he laid stress on the tendency of the times, that did not necessarily mean that he believed in it. He believed that the Council of the Pharmaceutical Society were very wise in their educational policy. The time might not be very far distant when some course in biology would be part of the curriculum. He had laid stress on biology because it was the way medical thought was going. That was the tendency of medicine, and they must remember that pharmacy made up the medicine.

## Oil of Lemon

By Ernest J. Parry, B.Sc., F.I.C.

THE paper on the differences between sponge-pressed and machine-made oils of lemon by Romeo, Galletti and Amoroso, of which an abstract appeared in the *C. & D.*, December 10, p. 712, is of considerable interest and—up to a point—of some value. But in practice it is important that its limitations should be realised.

In the course of the examination of many hundreds of samples of lemon oil every year I have observed in many cases a low evaporation residue in the case of oils, which various considerations showed very definitely were not sponge oils. Now when one has to deal with the discrimination between the two oils, or what I may call a straight mixture of the two oils, Romeo's figures will be of considerable value. But, unfortunately, that is seldom the problem which the analyst outside Sicily has to deal with. A very large amount of machine-made oil is of such dark colour that it is impracticable to use it in any serious amount to mix with a normal sponge oil. This dark-coloured oil is used for the manufacture of terpeneless lemon oil, and the vacuum distillate is a colourless lemon terpene containing as much as 1.5, or even 2, per cent. of citral. It is, of course, free from the so-called stearoptene or evaporation residue. The terpeneless oil is then distilled over, and the non-volatile residue, absolutely valueless, except in so far as it is used for adulteration purposes, is left in the still.

It is the colourless terpenes distilled from the machine-made oil, fairly rich in citral, and free from non-volatile residue, with which we have to deal when the oil arrives in London. If a true sponge oil, containing 5 per cent. of citral—of which there is plenty made in Sicily—be mixed with such distilled terpenes in the proportion of 2 to 1, a resulting 4 per cent. oil can be obtained with a low residue, and as the refractive index figures are based on the percentage of evaporation residues, there will be no difference between those of the pure sponge oil and those of an oil so adulterated. If the normal sponge oil has a low evaporation residue to start with, a very small quantity of the still residues is added to the mixture for the double purpose of colouring and slightly increasing the residue. The effect on the refractive indices is, of course, negligible with a very small addition. It is, therefore, of importance to realise that a positive result by the use of Romeo's figures is of considerable value, a negative result means nothing at all; and there are an enormous number of samples arriving in London which are mixed in the way I have indicated, and which will give the figures set out by Romeo for pure sponge oils.

**INDUSTRIAL METHYLATED SPIRIT FORMULARY.**—A supplement to the R.P.U. Formulary of preparations made with industrial methylated spirits has been issued, with the revised Regulations (S.R. & O., 1932, No. 843) and notes by Mr. G. A. Mallison, at the offices of the National Pharmaceutical Union, 4 and 5 Queen Square, London, W.C.1.

## The Cheap Market

By Manufacturer

THE wise and timely letter by "Frank English" in a recent issue of *THE CHEMIST AND DRUGGIST* drew attention to the perils of the practice—very much in vogue to-day—of hunting round the wholesale and manufacturing trades for the lowest price for a galenical or chemical. We know that the excuse for paying the lowest price is usually "It is guaranteed B.P., and that is all I care about." It may be pointed out that the B.P. standard is in many cases a minimum standard, and that many manufacturers aim at giving their customers preparations which exceed it. It is true that in such cases they may charge a few pence per pound more; but the preparation is worth it, and the customers, in the guise of the public, know it. A good instance is compound liquorice powder; two samples may be obtained, both B.P., but the effects may be quite dissimilar owing to the difference in the senna, and customers may easily be lost on paying 2d. less per lb.

Pharmacists to-day are all out to save a few pence, and to do so will go to extraordinary lengths, often deserting their regular drug house and quite forgetting the service its people have rendered to them and are willing to render to them—a service which often the house selling the cheap drugs is unable or unwilling to give. Here are a few of these services taken from the post-bag of a well-known house:—

Particulars of a business for sale; can all the firm's travellers be told about it?

A prescription (foreign) to be translated.

Details for several months of all purchases of isopropyl alcohol.

A good locum wanted, must be sober and well recommended.

The services of the firm's advertising manager in advising as to the suitability of a certain layout for a newspaper.

Is a solution of a certain strength a "dangerous" drug? The questioner has lost his *C. & D.* card.

All these questions and applications are dealt with cheerfully and willingly by the house concerned, without charge; those who do the work realise that this is service inseparable from a large drug business of standing; I think, however, they are entitled to expect that, when their price for a certain galenical is 2d. or 3d. per lb. more than that of another house, which markets drugs as it does patents and proprietaries and which is not out to give service of the above description, they should get the business. Their customers will probably be getting a better article and will be giving a square deal at the same time.

There is no doubt that pharmacists generally have been very favoured lately, inasmuch as they have been getting their drugs, chemicals and galenicals at very low rates. This will not continue. There is evidence that the prices charged by manufacturers and wholesalers must be higher in the near future, and that the difference between standard list prices and the prices at which the article can be bought will not be so great. The wholesale drug trade is not making big profits to-day; it does not require much reading between the lines of certain recent balance sheets to prove this statement.

# American Formulas

A further selection from "The Pharmaceutical Recipe Book," published by the American Pharmaceutical Association, of formulas for non-official preparations that are in fairly common demand in American pharmacies

## Pharmaceutical Preparations

### CARMINATIVE WATER

Oil of orange peel ..	1 c.c.
Oil of caraway ..	1 c.c.
Oil of fennel ..	1 c.c.
Oil of coriander ..	1 c.c.
Oil of lemon ..	1 c.c.
Oil of spearmint ..	1 c.c.
Oil of matricaria ..	2 c.c.
Alcohol (95 per cent.) ..	100 c.c.
Water ..	to 1,000 c.c.

Dose: 30 c.c.

### CHILBLAIN BALSAM

Soap, powdered ..	60 gm.
Potassium iodide ..	30 gm.
Camphor ..	15 gm.
Tincture of benzoin (1 in 5) ..	60 c.c.
Glycerin ..	60 c.c.
Rose water ..	60 c.c.
Alcohol (95 per cent.) ..	750 c.c.

Dissolve the potassium iodide in the glycerin and rose water. Add the solution to the other ingredients previously dissolved in the alcohol.

### CHILBLAIN COLLODION

Liniment of aconite and chloroform (N.F. V) ..	125 c.c.
Liniment of belladonna (N.F. V) ..	250 c.c.
Liquefied phenol ..	18 c.c.
Collodion ..	to 1,000 c.c.

Mix the liniments of aconite and chloroform and belladonna, add the phenol and sufficient collodion to make the product measure 1,000 c.c.

### CORN COLLODION

I	
Salicylic acid ..	160 gm.
Lactic acid ..	32 gm.
Extract of cannabis ..	10 gm.
Acetone ..	60 c.c.
Flexible collodion ..	to 1,000 c.c.

Incorporate the cannabis extract with the acetone and dissolve the acids in the mixture. Finally add sufficient flexible collodion to make the product measure 1,000 c.c.

### II

Salicylic acid ..	20 gm.
Glacial acetic acid ..	100 c.c.
Celluloid ..	50 gm.
Camphor ..	50 gm.
Castor oil ..	25 c.c.
Acetone ..	to 1,000 c.c.

Shred the celluloid and dissolve it in the warmed acetic acid. Dissolve the camphor and salicylic acid in the acetone. Mix the two solutions, then add the castor oil.

## LOTIONS

### BOECK'S LOTION

Strong solution of lead subacetate ..	20 c.c.
Solution of coal tar ..	150 c.c.
Starch ..	200 gm.
Purified talc ..	200 gm.
Glycerin ..	100 c.c.
Mucilage of acacia (U.S.P. X) ..	15 c.c.
Water ..	to 1,000 c.c.

Triturate the purified talc and starch with the solution of coal tar and the

glycerin. Add the solution of lead subacetate, mix well, then the mucilage of acacia and enough water to make the product measure 1,000 c.c. Dispense with a "shake-well" label.

Note.—This preparation develops a compact sediment upon standing. Vigorous agitation will re-establish the suspension.

### CALAMINE AND CHALK LOTION

Prepared calamine ..	50 gm.
Prepared chalk ..	50 gm.
Diluted hydrocyanic acid ..	20 c.c.
Glycerin ..	150 c.c.
Solution of calcium hydroxide ..	to 1,000 c.c.

Triturate the prepared chalk and calamine until smooth, gradually add the solution of calcium hydroxide and the other ingredients. Dispense with a "shake-well" label.

### CALAMINE AND ZINC OXIDE LOTION (Dr. Bulkley)

Prepared calamine ..	32 gm.
Zinc oxide ..	64 gm.
Glycerin ..	95 gm.
Solution of calcium hydroxide ..	120 c.c.
Water, or rose water ..	to 1,000 c.c.

Triturate the solids with the glycerin, add the solution of calcium hydroxide and enough water, or rose water, to make the product measure 1,000 c.c.

### EMOLLIENT GUM LOTION (Dr. Pusey)

Oil of rose ..	0.05 c.c.
Oil of lavender ..	0.10 c.c.
Oil of bergamot ..	0.20 c.c.
Tragacanth, powdered ..	5.00 gm.
Boric acid ..	15.00 gm.
Glycerin ..	15.00 c.c.
Water ..	to 1,000.00 c.c.

Dissolve the gum in 900 c.c. of water. Add the glycerin. Dissolve the oils and the boric acid in this liquid and add sufficient water to make the product measure 1,000 c.c.

### INSECT STING LOTION

#### I

Menthol ..	20 gm.
Alcohol (95 per cent.) ..	750 c.c.
Solution of ammonia (28 per cent.) ..	to 1,000 c.c.

Dissolve the menthol in the alcohol, and add the solution of ammonia.

#### II

Sodium bicarbonate ..	90 gm.
Water ..	to 1,000 c.c.

Dissolve and filter. Add a sufficient quantity of a suitable perfume.

#### III

Thymol ..	20 gm.
Spirit of camphor ..	800 c.c.
Solution of ammonia (10 per cent.) ..	to 1,000 c.c.

Dissolve the thymol in the spirit of camphor, and add the solution of ammonia water. Lotions I and III are effective as preventives as well as for treating insect bites.

## MIXTURES

### DYSENTERY MIXTURE

#### I

Diluted sulphuric acid ..	60 c.c.
Compound tincture of cardamom (U.S.P. X) ..	120 c.c.
Sugar ..	240 gm.
Spearmint water ..	to 1,000 c.c.

Dissolve the sugar in 500 c.c. of spearmint water. Add the other ingredients and enough spearmint water to make the product measure 1,000 c.c.

Dose: 8 c.c.

#### II

Resorein ..	16 gm.
Bismuth subnitrate ..	40 gm.
Bismuth subgallate ..	40 gm.
Compound tincture of cardamom (U.S.P. X) ..	250 c.c.
Essence of pepsin (N.F. V) ..	500 c.c.
Cinnamon water ..	to 1,000 c.c.

Dissolve the resorein in the compound tincture of cardamom, add the solids and essence of pepsin and enough cinnamon water to make the product measure 1,000 c.c.

Dose: 4 c.c.

#### III

Prepared chalk ..	30 gm.
Tincture of kino (U.S.P. X) ..	50 c.c.
Camphorated tincture of opium (U.S.P. X) ..	30 c.c.
Compound tincture of cardamom (U.S.P. X) ..	100 c.c.
Spirit of chloroform ..	50 c.c.
Peppermint water ..	400 c.c.
Syrup of orange ..	to 1,000 c.c.

Triturate the prepared chalk with the peppermint water, add the alcoholic liquids and enough syrup of orange to make the product measure 1,000 c.c.

Dose: 4 c.c.

### GRAY'S COUGH MIXTURE

Ammonium chloride ..	60 gm.
Diluted hydrocyanic acid ..	8 c.c.
Chloroform ..	6 c.c.
Syrup of wild cherry ..	500 c.c.
Syrup of lactucarium (U.S.P. IX) ..	to 1,000 c.c.

Dose: 4 c.c.

### H.X.B. MIXTURE

Lambert Treatment for Drug and Alcohol Addiction

Fluidextract of hyoscyamus (U.S.P. X) ..	250 c.c.
Fluidextract of xanthoxylum (N.F. V) ..	250 c.c.
Fluidextract of belladonna leaves (U.S.P. X) ..	75 c.c.
Alcohol (49 per cent.) ..	425 c.c.

This preparation is administered only when the patient can be kept under trained medical supervision. A medical journal suggests the following treatment: —Begin with from 6 to 8 minims every hour, or until some signs of belladonna intoxication are observed. Every six hours increase the specific 2 minims until 14 or 16 minims are being taken every hour, but do not exceed 16 minims. If signs of belladonna intoxication are noticed, such as dilated pupils, dryness of throat, red rash, or a rapidity of speech, or sometimes



the beginning of delirium, then the specific must be stopped. When these symptoms have subsided, then begin again in 8-minim doses. Some patients are very susceptible to belladonna, and may have to start with 4 minims.

#### IRON CITRATE MIXTURE (Gray)

Iron and ammonium citrate	32 gm.
Citric acid .. .. .	5 gm.
Tincture of lemon (U.S.P. X)	8 c.c.
Syrup .. .. .	750 c.c.
Distilled water .. .. .	to 1,000 c.c.

Triturate the citric acid with the iron and ammonium citrate. Dissolve in about 200 c.c. of distilled water. Add the tincture of lemon and the syrup, and enough distilled water to make the product measure 1,000 c.c.

Dose: 4 c.c.

#### IRON SALICYLATE MIXTURE Braithwaite's Iron Mixture

Ferrous sulphate, clear crystals .. .. .	15 gm.
Sodium salicylate .. .. .	15 gm.
Glycerin .. .. .	150 gm.
Water .. .. .	to 1,000 c.c.

Dissolve the ferrous sulphate in 250 c.c. of water, and the sodium salicylate in an equal quantity of water, to which the glycerin has been added. Mix the two liquids and add sufficient water to make the product measure 1,000 c.c. Dispense with a "shake-well" label.

Dose: 4 c.c.

#### PARALDEHYDE MIXTURE

Paraldehyde .. .. .	60.0 c.c.
Benzaldehyde .. .. .	1.2 c.c.
Fluidextract of glycyrrhiza (U.S.P. X) .. .. .	60.0 c.c.
Syrup .. .. .	250.0 c.c.
Distilled water .. .. .	to 1,000 c.c.

Mix the first four liquids by agitation, and add enough distilled water to make the product measure 1,000 c.c.

Dose: 15 to 30 c.c.

#### P.I.N.S. COUGH MIXTURE

Paregoric (U.S.P. X),	
Syrup of ipecacuanha (U.S.P. X),	
Spirit of ethyl nitrite (U.S.P. X),	
Syrup of squill, of each, a sufficient quantity to make	1,000 c.c.

A favourite household cough remedy. The letters P.I.N.S. stand for the first letters of the words paregoric, ipecac, nitre and squill in the colloquial formula.

Dose: 2 c.c.

#### WHITE COUGH MIXTURE

Sodium benzoate .. .. .	125 gm.
Aromatic elixir (U.S.P. X)	250 c.c.
Distilled water .. .. .	to 1,000 c.c.

Dissolve the sodium benzoate in 600 c.c. of distilled water, add the aromatic elixir and sufficient distilled water to make the product measure 1,000 c.c.

Dose: 4 c.c.

#### OINTMENTS

##### CASEIN OINTMENT

Soluble casein .. .. .	140 gm.
Glycerin .. .. .	70 c.c.
White soft paraffin .. .. .	210 gm.
Phenol .. .. .	5 gm.
Distilled water .. .. .	to 1,000 gm.

Dissolve the phenol and glycerin in 580 c.c. of water. In this mixture dissolve the casein. Incorporate the soft paraffin by trituration in a mortar.

##### COMPOUND ACETANILID OINTMENT

Acetanilid .. .. .	50 gm.
Gall and opium ointment (U.S.P. X) .. .. .	to 1,000 gm.

##### COMPOUND OINTMENT OF CALAMINE

Olive oil .. .. .	610.0 gm.
Yellow wax .. .. .	175.0 gm.
Kaolin .. .. .	70.0 gm.
Prepared calamine .. .. .	70.0 gm.
Lead monoxide .. .. .	70.0 gm.
Camphor .. .. .	7.0 gm.

Melt the wax and incorporate with the olive oil, add the kaolin, calamine and lead monoxide. When nearly cold, add the finely-powdered camphor.

##### ECZEMA OINTMENT

Boric acid ointment (U.S.P. X) .. .. .	235 gm.
Zinc oxide ointment (U.S.P. X) .. .. .	475 gm.
Ammoniated mercury ointment (U.S.P. X) .. .. .	235 gm.
Solution of coal tar .. .. .	20 c.c.
Liquefied phenol .. .. .	35 gm.

Thoroughly incorporate the liquids in a mixture of the ointments.

##### FOOT OINTMENT

Lead oleate plaster (U.S.P. X)	480 gm.
Arachis oil .. .. .	80 gm.
Soft paraffin .. .. .	360 gm.
Boric acid .. .. .	60 gm.
Tannic acid .. .. .	20 gm.

Oil of melissa, to perfume.

Triturate the tannic acid with the boric acid; incorporate the mixture with the arachis oil. Melt the lead oleate plaster and soft paraffin, using a gentle heat. To this fused material, add the arachis oil mixture, and finally, with constant stirring, the oil of melissa. Stirring should be continued until the ointment is completely cooled.

##### PILE OINTMENT (Walker's)

Zinc oxide ointment (U.S.P. X) .. .. .	400 gm.
Mercurous chloride .. .. .	45 gm.
Lead acetate .. .. .	45 gm.
Hydrous wool fat .. .. .	to 1,000 gm.

Rub the mercurous chloride and lead acetate into a smooth ointment with the zinc oxide ointment, then incorporate the wool fat.

#### PILLS

##### DIGESTIVE PILLS

Belladonna leaves in fine powder .. .. .	1.00 gm.
Strychnine .. .. .	0.06 gm.
Pepsin, in fine powder .. .. .	18.00 gm.
Capsicum, in fine powder .. .. .	3.00 gm.
Syrup, a sufficient quantity to make .. .. .	100 pills.

Dose: One pill. Each pill contains 0.0006 gm. or 1/100 grain of strychnine.

##### NEURALGIA PILLS

Capsicum, in fine powder .. .. .	0.75 gm.
Lupulin .. .. .	0.75 gm.
Quinine sulphate .. .. .	4.50 gm.
Aromatic powder (N.F. IV)	6.00 gm.
Confection of rose (N.F. V)	8.00 gm.
Syrup, a sufficient quantity to make .. .. .	100 pills.

Dose: One pill.

##### STRONG APERIENT PILLS

Extract of aloe .. .. .	10.0 gm.
Colocynthis, in fine powder .. .. .	3.0 gm.
Jalap, in fine powder .. .. .	3.0 gm.
Mercurous chloride .. .. .	3.0 gm.
Soap, a sufficient quantity to make .. .. .	(about 10 gm.)
Oil of peppermint .. .. .	0.3 c.c.
Oil of clove .. .. .	0.6 c.c.
To make 100 pills.	
Dose: One pill.	

#### POWDERS

##### ASTHMA POWDER

In the formulas which follow, the drugs, in fine or coarse powder, are intimately mixed. Asthma powders are used by burning about one-half to one teaspoonful and inhaling the fumes.

##### I

Lobelia, in coarse powder,	
Stramonium leaves, in coarse powder,	
Black tea leaves, in coarse powder,	
Potassium nitrate, of each	250 gm.

##### II

Stramonium, powdered .. .. .	500 gm.
Potassium nitrate .. .. .	500 gm.

##### III

Anise seed, in coarse powder	120 gm.
Lobelia, in coarse powder	240 gm.
Potassium nitrate .. .. .	240 gm.
Stramonium, in coarse powder .. .. .	400 gm.

##### IV

Lobelia, in coarse powder .. .. .	250 gm.
Stramonium, in coarse powder .. .. .	250 gm.
Tea leaves, in coarse powder	250 gm.
Potassium nitrate .. .. .	250 gm.
Oil of anise .. .. .	4 c.c.
Oil of fennel .. .. .	4 c.c.

Intimately mix the powdered drugs and incorporate the oils of anise and fennel.

##### COMPOUND MENTHOL SNUFF

Menthol .. .. .	20 gm.
Sozoiodol-sodium .. .. .	20 gm.
Milk sugar .. .. .	480 gm.
Boric acid, in fine powder	480 gm.

##### MENTHOL DUSTING POWDER

Menthol .. .. .	5 gm.
Thymol .. .. .	5 gm.
Boric acid, in fine powder	200 gm.
Perfume to suit	
Purified talc .. .. .	to 1,000 gm.

##### WORM POWDERS

Podophyllum resin .. .. .	0.4 gm.
Santonin .. .. .	0.8 gm.
Calomel .. .. .	4.0 gm.
Milk sugar .. .. .	8.0 gm.
Cinnamon, in fine powder	4.0 gm.

To make 50 powders.

Dose: One powder three times daily.

#### SOAPS

##### LIQUID SOAP

Sodium hydroxide .. .. .	40 gm.
Potassium hydroxide .. .. .	40 gm.
Cottonseed oil .. .. .	400 gm.
Coconut oil .. .. .	100 gm.
Alcohol (95 per cent.) .. .. .	250 c.c.
Distilled water .. .. .	to 2,500 c.c.

##### SURGICAL LIQUID SOAP

Cottonseed oil .. .. .	200 gm.
Coconut oil .. .. .	100 gm.
Alcohol (95 per cent.) .. .. .	200 c.c.
Water .. .. .	450 c.c.
Sodium hydroxide .. .. .	45 gm.
Potassium carbonate .. .. .	10 gm.
Ether .. .. .	15 c.c.
Liquefied phenol .. .. .	25 c.c.

Add a mixture of 100 c.c. of water and 200 c.c. of alcohol to the mixed oils and mix thoroughly. Dissolve the sodium hydroxide and the potassium carbonate in 325 c.c. of water; add this solution to the oil mixture, and warm until completely saponified. After it has cooled, add the ether and phenol.

## SOLUTIONS

COMPOUND SOLUTION OF TRICHLOR-  
ACETIC ACID

Trichloroacetic acid ..	330 gm.
Magnesium sulphate ..	500 gm.
Distilled water ..	to 1,000 c.c.

This is used for the removal of warts and similar growths.

## DEODORISING CLEANSING SOLUTION

Thymol ..	2 gm.
Oil of pine needles ..	2 c.c.
Oil of peppermint ..	2 c.c.
Alcohol (95 per cent.) ..	60 c.c.
Liniment of soft soap (U.S.P. X) ..	30 c.c.
Water ..	to 1,000 c.c.

Dissolve the thymol and the oils in the alcohol. Add the liniment and finally, enough water to measure 1,000 c.c.

This solution may be used for scrubbing the mouthpieces of telephones, etc.

## FORMALISED CLEANSING SOLUTION

Cinnamic acid ..	3 gm.
Benzoic acid ..	10 gm.
Boric acid ..	55 gm.
Thymol ..	10 gm.
Menthol ..	10 gm.
Oil of pine needles ..	4 c.c.
Oil of eucalyptus ..	8 c.c.
Tincture of myrrh ..	8 c.c.
Solution of formaldehyde ..	38 c.c.
Acetic ether ..	4 c.c.
Glycerin ..	240 c.c.
Alcohol (95 per cent.) ..	625 c.c.
Purified talc ..	100 gm.
Distilled water ..	to 20,000 c.c.

Dissolve the boric acid in 15,000 c.c. of water and the other ingredients in 500 c.c. of alcohol. Pour the aqueous solution into the alcoholic solution, add the glycerin and the talc, and allow the mixture to stand, with occasional agitation, during forty-eight hours. Then filter, returning the first portions of the filtrate until it passes thoroughly clear. Add 125 c.c. of alcohol to the filtrate and then sufficient water to make the product measure 20,000 c.c.

## TONICS

## NON-ALCOHOLIC QUININE TONIC

Quinine sulphate ..	2.5 gm.
Diluted phosphoric acid (10 per cent.) ..	30.0 c.c.
Tincture of sweet orange peel (U.S.P. X) ..	60.0 c.c.
Glycerin ..	60.0 c.c.
Tincture of nux vomica (U.S.P. X) ..	15.0 c.c.
Spirit of chloroform ..	15.0 c.c.
Water ..	to 1,000.0 c.c.

Dissolve the quinine sulphate in the diluted acid added to 500 c.c. of distilled water. To this add the other ingredients, and finally enough distilled water to make the product measure 1,000 c.c.

Dose: 8 c.c.

## NUTRITIVE IRON TONIC

Solution of arsenous acid (U.S.P. X) ..	10 c.c.
Extract of malt ..	400 c.c.
Solution of iron peptonate and manganese (N.F. V) to	1,000 c.c.

Mix the arsenical solution with about 40 c.c. of the iron and manganese solution, and add the extract of malt. Finally, add sufficient of the iron and manganese solution to make the product measure 1,000 c.c., and mix them thoroughly.

Dose: 8 c.c.

## Dental Preparations

## DENTAL PASTES

## TOOTHACHE WAX

Yellow wax ..	50 gm.
Lard ..	10 gm.
Oil of clove ..	20 c.c.
Creosote ..	20 c.c.

Melt the wax and lard, and, when almost cooled, add the creosote and oil of clove. While still fluid, incorporate shreds of cotton uniformly throughout the mass until a workable gum is obtained. Roll this into narrow cylinders and sprinkle with starch. Wrap in wax paper and dispense in vials.

## CHARCOAL &amp; CINCHONA PASTE

Charcoal, in fine powder ..	250 gm.
Cinchona, in fine powder ..	250 gm.
Vanilla sugar (10 per cent.) ..	250 gm.
Oil of cinnamon ..	5 c.c.
Honey ..	250 c.c.

Mix the dry ingredients, add the oil of cinnamon, then incorporate the honey.

## DETERGENT TOOTH PASTE

Soap, powdered ..	200 gm.
Oil of lemon ..	20 c.c.
Oil of peppermint ..	23 c.c.
Carmine, powdered ..	15 gm.
Purified talc ..	700 gm.
Honey ..	to about 1,000 gm.

Triturate together the powdered soap, talc and carmine. Then incorporate the oils and finally, enough honey to make a paste.

## SAPONACEOUS TOOTH PASTE

Precipitated chalk ..	80 gm.
Purified talc ..	20 gm.
Glycerin ..	17 gm.
Soap, powdered ..	16 gm.
Sugar, powdered ..	8 gm.
Colour, a sufficient quantity	
Flavour, a sufficient quantity	

Incorporate the powders, add the colour and flavour and work into a paste with the glycerin.

It is very essential to use a soap which does not readily become rancid, and which produces a fair lather. Powdered coconut oil soap of recent manufacture is excellent for this purpose and the glycerin retards its tendency to become rancid.

## DENTAL POWDERS

## MYRRH TOOTH POWDER

Myrrh, powdered ..	125 gm.
Cuttle fish bone, in fine powder ..	125 gm.
Orris root, powdered ..	375 gm.
Oil of rose ..	5 c.c.
Precipitated chalk ..	375 gm.

## ORRIS TOOTH POWDER

Orris root, in fine powder ..	300 gm.
Purified siliceous earth ..	120 gm.
Precipitated chalk ..	520 gm.
Oil of clove ..	2 c.c.

## ROSE AND QUININE TOOTH POWDER

Quinine sulphate, powdered ..	2.0 gm.
Myrrh, powdered ..	120.0 gm.
Orris root, powdered ..	90.0 gm.
Cuttle fish bone, in fine powder ..	90.0 gm.
Pumice, in fine powder ..	120.0 gm.
Oil of rose ..	1.3 c.c.
Precipitated calcium carbonate ..	680.0 gm.

## MOUTH WASHES

## AROMATIC DENTIFRICE

Thymol ..	2.00 gm.
Oil of peppermint ..	4.50 c.c.
Oil of clove ..	1.30 c.c.
Oil of cassia ..	1.30 c.c.
Oil of wintergreen ..	1.30 c.c.
Oil of anise ..	1.30 c.c.
Gluside ..	0.25 gm.
Alcohol (95 per cent.) ..	to 1,000.00 c.c.

Dissolve the thymol, volatile oils and gluside in sufficient alcohol to make the product measure 1,000 c.c.

## LIQUID DENTIFRICE

Soap ..	75.0 gm.
Alcohol (95 per cent.) ..	300.0 c.c.
Tincture of red saunders, a sufficient quantity ..	
Oil of wintergreen ..	1.3 c.c.
Distilled water ..	to 1,000.0 c.c.

Dissolve the soap in the alcohol, add the oil of wintergreen and 500 c.c. of distilled water. Now add sufficient of the tincture of red saunders to give the desired shade. Finally add sufficient distilled water to make the product measure 1,000 c.c.

Note.—A permissible water-soluble aniline colour will produce a colour of greater permanency.

## MOUTH WASH FOR INFANTS

Sodium borate ..	48 gm.
Sodium bicarbonate ..	16 gm.
Thymol ..	1 gm.
Alcohol (95 per cent.) ..	15 c.c.
Glycerin ..	250 c.c.
Anise water ..	to 1,000 c.c.

Dissolve the salts in 500 c.c. of anise water, add the glycerin and allow the solution to stand until effervescence has ceased. Dissolve the thymol in the alcohol, and add the solution to the foregoing. Then add sufficient anise water to make the product measure 1,000 c.c.

## SALOL MOUTH WASH

Salol ..	25.00 gm.
Gluside ..	0.04 gm.
Oil of peppermint ..	5.00 c.c.
Oil of caraway ..	5.00 c.c.
Oil of clove ..	5.00 c.c.
Alcohol (95 per cent.) ..	to 1,000.00 c.c.

Dissolve the salol, the gluside and the oils in sufficient alcohol to make the product measure 1,000 c.c.

## TANNIN MOUTH WASH

Tannic acid ..	64 gm.
Phenol ..	16 gm.
Glycerin ..	120 c.c.
Distilled water ..	to 1,000 c.c.

Dissolve the tannic acid in 500 c.c. of water, and add the glycerin in which the phenol has been previously dissolved. Finally, add sufficient distilled water to make the product measure 1,000 c.c., and filter.

## THYMOL MOUTH WASH

Thymol ..	1 gm.
Oil of eucalyptus ..	2 c.c.
Tincture of cudbear (N.F. V) ..	8 c.c.
Alcohol (95 per cent.) ..	300 c.c.
Water ..	to 1,000 c.c.

Dissolve the oil of eucalyptus and the thymol in the alcohol, add the tincture of cudbear, and pour this solution into 500 c.c. of water, finally adding enough water to make the product measure 1,000 c.c., and filter.



## Veterinary Preparations

### CANARY FEED

Egg yolk, dried ..	20 gm.
Cuttlefish bone, powdered..	10 gm.
Sugar, powdered ..	10 gm.
Fenugreek, powdered ..	10 gm.
Capsicum, powdered ..	40 gm.
Poppy seed, bruised ..	10 gm.

### CATTLE PREPARATIONS

#### REMEDY FOR DIMINISHED MILK SECRETION

Anise, powdered ..	100 gm.
Fennel, powdered ..	100 gm.
Antimony sulphide, powdered ..	200 gm.
Sodium chloride, powdered ..	200 gm.

Give two heaped tablespoonfuls in warm water twice a day.

#### WORM REMEDY FOR CATTLE

Wormwood, in fine powder ..	30 gm.
Tansy, in fine powder ..	30 gm.
Aloe, in fine powder ..	30 gm.
Dippel's oil ..	120 c.c.
Linseed oil ..	500 c.c.

Mix the powders in a mortar with a portion of the linseed oil, incorporate the Dippel's oil and finally the remainder of the linseed oil.

Dose: Give one-half of the above mixture for a dose, then follow with the remaining half in five hours. Give a purgative promptly after the second dose.

### DOG REMEDIES

#### FLEA POWDER

Non-poisonous for Cats and Dogs

Boric acid, powdered ..	125 gm.
Sublimed sulphur, powdered ..	125 gm.
Naphthalene, powdered ..	125 gm.
Oil of pennyroyal ..	8 c.c.
Insect powder ..	500 gm.

#### KILL-FLEAS

For Dogs

Oil of wormwood ..	8 c.c.
Oil of pennyroyal ..	15 c.c.
Oil of sassafras ..	15 c.c.
Spirit of camphor ..	60 c.c.
Compound cresol solution (U.S.P. X) ..	500 c.c.
Acetone ..	to 1000 c.c.

Kill-Fleas is to be diluted with water, about 1 tablespoonful to 1 pint, and then applied to the dog. A small amount put into the bath of the dog will keep away fleas.

This liquid is inflammable.

#### MANGE REMEDY FOR DOGS

Petroleum benzin ..	200 c.c.
Coal tar ..	60 c.c.
Green soap ..	60 gm.
Oil of turpentine ..	60 c.c.
Oil of cade ..	60 c.c.

To be rubbed in once daily over the area involved.

### HORSE PREPARATIONS

#### COLIC REMEDY FOR HORSES

Chlorodyne ..	30 c.c.
Spirit of ethyl nitrite (U.S.P. X) ..	60 c.c.
Linseed oil ..	400 c.c.

Give this mixture at one dose and repeat in two hours, if necessary.

### COUGH POWDER FOR HORSES

Camphor, powdered ..	12 gm.
Potassium chlorate, powdered ..	6 gm.
Belladonna leaves, in fine powder ..	6 gm.
Anise, powdered ..	8 gm.

Mix the powdered drugs and divide the mixture into 6 powders.

Dose: One powder twice a day in the food.

### EYE WASH FOR HORSES

Arnica flowers ..	10 gm.
Chamomile flowers..	10 gm.
Water (hot) ..	210 c.c.

Infuse the flowers in the hot water. Filter the infusion when cool.

### HEALING LOTION FOR HORSES

Strong solution of lead subacetate ..	30 c.c.
Oil of eucalyptus ..	120 c.c.
Diluted acetic acid (6 per cent.) ..	210 c.c.
Sesame oil ..	600 c.c.
Yolks of two fresh eggs to make about ..	1000 c.c.

Triturate the yolks in a mortar and gradually add the sesame oil to which has been added the oil of eucalyptus. Then incorporate the vinegar and finally the solution of lead subacetate. Alkanet may be added as a colouring agent if desired.

### STOCK FOOD

Fenugreek, ground ..	60 gm.
Anise, ground ..	20 gm.
Sodium chloride, powdered ..	40 gm.
Ferrous sulphate, powdered ..	10 gm.
African ginger, powdered ..	10 gm.
Oil cake, ground ..	400 gm.
Miller's shorts ..	200 gm.
St. John's bread, ground..	200 gm.

Dose: One or two tablespoonfuls in feed.

### WORM POWDER FOR HORSES

Pink root, powdered ..	100 gm.
Jalap, powdered ..	100 gm.
Santonica, powdered ..	100 gm.
American wormseed, powdered ..	100 gm.
Sodium chloride, powdered ..	200 gm.
Areca nut, powdered ..	100 gm.
Clove, powdered ..	100 gm.

Dose: One tablespoonful in bran mash.

### POULTRY PREPARATIONS

#### TONIC FOR FOWLS

##### I

Magnesium sulphate, powdered ..	520 gm.
Magnesium oxide ..	60 gm.
Ferrous sulphate, powdered ..	120 gm.
Ginger, ground ..	120 gm.

Dose: A teaspoonful mixed with a quart of feed.

##### II

Sodium chloride ..	30 gm.
Magnesium sulphate ..	90 gm.
Ferrous sulphate, dried ..	360 gm.
Calcium hypophosphite ..	750 gm.

Dose: A teaspoonful mixed with a quart of feed.

#### TONIC FOR YOUNG STOCK

Sodium bicarbonate ..	$\frac{1}{2}$ oz.
Calcium phosphate ..	2 oz.
Calcium carbonate ..	8 oz.
Oil meal ..	2 lbs.
Oyster shells, ground ..	4 lbs.
Sodium chloride ..	8 lbs.

Dose: A teaspoonful mixed with a quart of feed.

### TOILET PREPARATIONS

#### BANDOLINES

Bandolines are mucilaginous preparations that are used to stiffen the hair. The following is a formula for a preparation of this type:—

Tragacanth ..	56 gm.
Oil of bitter almond ..	3 c.c.
Rose water ..	1,000 c.c.

Reduce the tragacanth to small pieces and allow it to soak in the rose water in a warm place, with occasional stirring, until it has swollen. Press the mass through a cloth and incorporate the oil of bitter almond and colour to suit.

#### BATH SALTS

##### Effervescent Bath Salt

Sodium bicarbonate ..	255 gm.
Tartaric acid ..	213 gm.
Corn starch ..	339 gm.
Oil of lemon ..	3 c.c.
Oil of orris ..	1 c.c.
Oil of cananga ..	1 c.c.

Mix these ingredients intimately. This powder when added to the bath softens the water of the bath and produces a stimulating effect due to the carbon dioxide evolved.

Coloured and perfumed bath salts are prepared by spraying the colouring matter and perfume in liquid form over either borax, washing soda, or granular sodium chloride, or other suitable salts. Small crystals are generally used for the purpose, and the nature of the spraying liquid may be judged from the following formula for a pink product:—

Safranine ..	2 gm.
Glycerin ..	100 gm.
Water ..	to 1,000 c.c.

Of the coal-tar dyes, the basic dye-stuffs, such as are used for cotton yarns, give the best results. The perfumed product must be such as will withstand contact with alkalies and a fixative such as resinoid of benzoin or oilbanum is always needed to "stay" the odour. Whenever possible terpeneless volatile oils should be used.

#### BRILLIANTINES

These hair preparations are used to give a glossy appearance to the hair and in certain instances to cause it to stay in some desired position. They are of four types, liquid, semi-solid, solid, fatty and non-fatty solid.

##### I—Brilliantine Liquid (Old Type)

Castor oil ..	35.0 c.c.
Expressed oil of almond ..	250.0 c.c.
Glycerin ..	110.0 c.c.
Perfume ..	12.5 c.c.
Alcohol ..	to 1,000.0 c.c.

##### II—Solid

Oil of bitter almond ..	7.5 c.c.
Oil of clove ..	15.0 c.c.
Oil of bergamot ..	30.0 c.c.
Prepared suet ..	500.0 gm.
Spermaceti ..	235.0 gm.
Castor oil ..	235.0 c.c.

Melt the spermaceti and suet, then add the castor oil, continuing the heat until a uniform mixture results. Add the perfume oils and stir until congealed.

##### III—Semi-Solid

Oil of bergamot ..	18 c.c.
Oil of clove ..	20 c.c.
Oil of rose geranium ..	5 c.c.
Castor oil ..	740 c.c.
Spermaceti ..	220 gm.

Melt the spermaceti then add the castor oil, continuing the heat until a uniform mixture results. Add the perfume oils and stir until congealed.

## IV—Liquid

Chlorophyll, oil-soluble ..	0.5 gm.
Beta-ionone .. ..	3.0 c.c.
Oil of santal .. ..	1.0 c.c.
Methyl-heptene carbonate ..	0.1 gm.
Iron .. ..	1.0 gm.
Oil of cananga, terpeneless ..	2.0 c.c.
Heavy liquid paraffin ..	800.0 c.c.
Expressed oil of almond ..	200.0 c.c.

Triturate the chlorophyll in a warmed mortar, with the fixed oil. Allow the insoluble matter to settle, pour off the clear liquid and add it to the liquid paraffin. Finally stir in the perfumes.

## V—Liquid

Phenylethyl isobutyrate ..	0.5 gm.
Oil of patchouli .. ..	0.1 c.c.
Heavy liquid paraffin ..	1,000.0 c.c.
Oil of rose, synthetic ..	2.5 c.c.

## CAMPHOR ICES

## Camphor Block

Oil of bitter almond ..	5 c.c.
Oil of eucalyptus ..	5 c.c.
White wax .. ..	440 gm.
Camphor, powdered ..	150 gm.
Spermaceti .. ..	150 gm.
Expressed oil of almond ..	200 c.c.

Melt the spermaceti and white wax, add the expressed oil of almond, and the powdered camphor. Stir until the camphor is dissolved; then as the mass begins to solidify add the oil of bitter almond and oil of eucalyptus.

## CAMPHOR ICE

## I

Camphor, powdered ..	60 gm.
Spermaceti .. ..	460 gm.
Expressed oil of almond ..	240 c.c.
White wax .. ..	240 gm.

Melt the white wax and spermaceti, add the expressed oil of almond and the powdered camphor. Stir and continue the heating until the camphor is dissolved.

## II

Heavy liquid paraffin ..	120 gm.
Paraffin (m.p. 128-130° F.) ..	362 gm.
White soft paraffin ..	482 gm.
Camphor, powdered ..	36 gm.

Melt the paraffin, add the white soft paraffin and the liquid paraffin. When all are liquefied, add the camphor, and stir until dissolved.

## III

Camphor, powdered ..	180 gm.
White wax .. ..	180 gm.
Glycerin .. ..	240 gm.
Spermaceti .. ..	400 gm.

Melt the spermaceti and white wax by heating gently, add the powdered camphor and as the mass begins to congeal, incorporate the glycerin.

## IV

White wax .. ..	430 gm.
White soft paraffin ..	430 gm.
Camphor, powdered ..	140 gm.

Gently heat the white wax until liquefied, then add the white soft paraffin and the powdered camphor. Stir until the mixture congeals.

## DANDRUFF LOTION

## Chloral and Tannin Lotion

Chloral hydrate .. ..	20 gm.
Tannic acid .. ..	10 gm.
Tartaric acid .. ..	10 gm.
Castor oil .. ..	20 c.c.
Alcohol (95 per cent.) ..	890 c.c.
Essence of violet .. ..	50 c.c.
Distilled water .. ..	to 1,000 c.c.

## FACE POWDERS, DRY

## FACE POWDER

Talc, in fine powder ..	500 gm.
China clay, dried ..	200 gm.
Zinc oxide .. ..	100 gm.
Zinc stearate .. ..	100 gm.
Magnesium carbonate ..	40 gm.
Perfume and colour to suit.	

## MEXICAN POWDER

Precipitated chalk, in fine powder .. ..	100 gm.
Wheat starch .. ..	50 gm.
Rice starch .. ..	100 gm.
Talc, in fine powder ..	160 gm.
Perfume, a sufficient quantity.	

## FACE POWDERS, LIQUID

## I

Levigated zinc oxide ..	54 gm.
Bismuth subchloride ..	54 gm.
Glycerin .. ..	67 c.c.
Perfume to suit	
Distilled water ..	to 1,000 c.c.

Triturate the zinc oxide and bismuth oxychloride together until intimately mixed, then incorporate them with the glycerin and water.

## II

Zinc oxide .. ..	50 gm.
Bismuth subchloride ..	50 gm.
Corn starch .. ..	50 gm.
Glycerin .. ..	100 c.c.
Orange-flower water ..	to 1,000 c.c.

Triturate the dry ingredients together, then incorporate the glycerin. Finally add sufficient orange-flower water to make the product measure 1,000 c.c.

## FRECKLE PREPARATIONS

FRECKLE LOTION  
(Prof. Paschik)

## I

Potassium carbonate ..	60 gm.
Potassium chlorate ..	20 gm.
Borax .. ..	15 gm.
Sugar .. ..	60 gm.
Glycerin .. ..	150 gm.
Rose water .. ..	330 gm.
Orange-flower water ..	to 1,000 c.c.

Dissolve the salts and sugar in the rose water, add the glycerin and finally, sufficient orange-flower water to make the product measure 1,000 c.c., and filter.

This is to be applied locally.

## II

Zinc sulphocarbonate ..	10 gm.
Glycerin .. ..	20 c.c.
Alcohol (95 per cent.) ..	8 c.c.
Perfumed spirit (N.F. V) ..	1 c.c.
Spirit of camphor .. ..	1 c.c.
Rose water .. ..	to 1,000 c.c.

## III

Mercuric chloride .. ..	1.2 gm.
Glycerin .. ..	60.0 c.c.
Tincture of benzoin (1 in 5) ..	30.0 c.c.
Alcohol (95 per cent.) ..	30.0 c.c.
Orange-flower water ..	to 1,000.0 c.c.

Dissolve the mercuric chloride in 750 c.c. of the orange-flower water, and add the glycerin. Now introduce below the surface the tincture of benzoin which has been previously diluted with an equal quantity of alcohol. Invert the container several times and then add sufficient orange-flower water to make the product measure 1,000 c.c.

## FRECKLE OINTMENT

Bismuth subnitrate ..	65 gm.
Ammoniated mercury ..	65 gm.
Starch .. ..	65 gm.
Zinc oxide .. ..	65 gm.
Camphor, in fine powder ..	65 gm.
Rose water ointment ..	675 gm.

## HAIR LOTIONS

## ALKALINE HAIR LOTION

## I

Solution of ammonia (28 per cent.) .. ..	175 c.c.
Expressed oil of almonds ..	175 c.c.
Tincture of cantharides (U.S.P. X) .. ..	15 c.c.
Oil of orange .. ..	10 c.c.
Spirit of rosemary .. ..	625 c.c.

Add the stronger ammonia water to the almond oil and shake vigorously. Then add the spirit of rosemary with which has been previously mixed the tincture of cantharides and oil of orange.

## II

Soap bark, powdered ..	37.5 gm.
Capsicum, powdered ..	5.6 gm.
Ammonium carbonate ..	7.5 gm.
Distilled water .. ..	15.0 c.c.
Eau de Cologne .. ..	75.0 c.c.
Alcohol (95 per cent.) ..	to 1,000.0 c.c.

Macerate the ingredients for eight days, and then filter.

## BUCKEYE HAIR LOTION

Tincture of cantharides (U.S.P. X) .. ..	30 c.c.
Tincture of capsicum (U.S.P. X) .. ..	15 c.c.
Resorcin .. ..	8 gm.
Infusion of sage (5 per cent.) ..	500 c.c.
Alcohol (95 per cent.) ..	440 c.c.
Perfume extract .. ..	15 c.c.

To the cooled, strained infusion of sage, add the tinctures and the resorcin dissolved in the perfume extract and alcohol.

## DETERGENT HAIR LOTION

Borax .. ..	5 gm.
Tincture of quillaja (N.F. V) ..	15 c.c.
Bay rum .. ..	30 c.c.
Orange-flower water ..	150 c.c.

## HEADACHE COLOGNE

## I

Acetic ether .. ..	100 c.c.
Solution of ammonia (28 per cent.) .. ..	14 c.c.
Oil of peppermint .. ..	7 c.c.
Perfumed spirit .. ..	to 1,000 c.c.

## II

Menthol .. ..	40 gm.
Perfumed spirit .. ..	to 1,000 c.c.

## LIP ROUGE

Light liquid paraffin ..	389.00 gm.
White wax .. ..	278.00 gm.
Spermaceti .. ..	278.00 gm.
Carmine, in very fine powder ..	55.56 gm.
Perfume to suit	

to make about 1,000.00 gm.

Rub the carmine to a smooth paste with the liquid paraffin, then add the remainder of the liquid paraffin; melt the wax and spermaceti, and add the carmine mixture. Mill the ointment.

## LIP STICK, WHITE

White wax .. ..	300 gm.
Spermaceti .. ..	300 gm.
Light liquid paraffin ..	to 1,000 gm.

Melt the wax and spermaceti, then add the liquid paraffin, continuing the heat until the mixture is uniform. Remove from the source of heat and stir until it congeals.

## NAIL POLISHING POWDER

Tin oxide, in fine powder ..	973 gm.
Carmine, in fine powder ..	13 gm.
Oil of lavender .. ..	7 c.c.
Oil of bergamot .. ..	7 c.c.



## EYEBROW POMADE

Tincture of cantharides (U.S.P. X)	6 c.c.
Oil of lavender	2 c.c.
Oil of rosemary	2 c.c.
Soft paraffin	100 c.c.

## EYELASH POMADE

Soft paraffin, pale yellow	200 gm.
Peach kernel oil	50 gm.
Hard paraffin	30 gm.

Melt the hard paraffin and incorporate with the oil and soft paraffin heated together on the water bath.

This is to be applied to the eyelashes with a cosmetic brush, the lashes to be brushed upwards to help the curl.

## STIMULATING POMADE FOR BALDNESS

Pilocarpine hydrochloride	2 gm.
Balsam of Peru	6 gm.
Precipitated sulphur	12 gm.
Benzotated lard (U.S.P. X)	96 gm.

Dissolve the pilocarpine hydrochloride in a small quantity of water, then incorporate this solution with the other ingredients.

## SHAMPOOS

## DRY SHAMPOO

Sodium bicarbonate	800 gm.
Ammonium carbonate, granulated	90 gm.
Borax	90 gm.
Terpineol	15 c.c.
Hyacinthin	2 gm.
Oil of bergamot	5 c.c.

Mix them intimately and preserve the mixture in containers which are afterwards tightly sealed.

## LIQUID SHAMPOO SOAP

## I

Cocoonut oil	66 c.c.
Cottonseed oil	78 c.c.
Stearic acid	36 gm.
Potassium hydroxide	42 gm.
Potassium carbonate	9 gm.
Alcohol (95 per cent.)	42 c.c.
Talc	10 gm.
Distilled water	to 1,000 c.c.

Melt the stearic acid in the hot oils (about 92° C.). Add the alkalies dissolved in 100 c.c. of distilled water, and heat until saponified. When cool, add the alcohol and sufficient water to make the product measure 1,000 c.c. Add the talc and filter.

## II

Soft soap	40 gm.
Potassium carbonate	8 gm.
Alcohol (95 per cent.)	80 c.c.
Distilled water	to 1,000 c.c.

Dissolve the soft soap in the alcohol and a portion of the distilled water, then add the potassium carbonate, and add sufficient distilled water to make the product measure 1,000 c.c. Perfume if desired.

## SHAMPOO FOR DRY SCALP

Oil of eucalyptus	2 c.c.
Oil of pine needles	2 c.c.
Glycerin	30 c.c.
Soft soap	50 gm.
Alcohol (95 per cent.)	60 c.c.
Water	to 1,000 c.c.

Dissolve the soap in 600 c.c. of water, using heat, then add the glycerin and alcohol in which the oils have been previously dissolved. Add sufficient water to make the product measure 1,000 c.c.

## SHAMPOO FOR OILY SCALP

Soft soap	630 gm.
Rose water	250 c.c.
Alcohol (95 per cent.)	to 1,000 c.c.

Add the rose water and 125 c.c. of alcohol to the soft soap, and agitate

until solution is effected, and add sufficient alcohol to make the product measure 1,000 c.c.

## SKIN CREAMS

## BLEACHING CREAM

Boric acid	6 gm.
Zinc oxide	12 gm.
Expressed oil of almond	24 c.c.
Glycerin	12 c.c.
Wool fat	72 gm.
Rose water	24 c.c.

Triturate the wool fat with the expressed oil of almond in a warm mortar. Incorporate the zinc oxide and the boric acid and rub until a smooth mixture results. Finally incorporate the glycerin and the rose water.

## BEAUTY CLAY CREAM

Fuller's earth, in fine powder	500 gm.
Glycerin	25 gm.
Oil of bergamot	10 c.c.
Tincture of benzoin (1 in 5)	200 c.c.
Water	125 c.c.

Mix the first four ingredients and when well massed, work in sufficient water to produce a soft clay.

## TOILET CREAMS AND LOTIONS

## SUNBURN PREPARATIONS

## I

Zinc oxide	30 gm.
Borax	15 gm.
Glycerin	60 c.c.
Bay rum	90 c.c.
Water, or aromatic water	to 600 c.c.

Triturate the solids to a fine powder, and gradually add the liquids so as to obtain a smooth mixture.

## II

Salol	50 gm.
Linseed oil	500 gm.
Lime water	500 gm.

Dissolve the salol in the linseed oil by agitation, and then saponify with the lime water. One per cent. of menthol or phenol is sometimes added.

## CHAP LOTION

Tragacanth, in fine powder	27 gm.
Glycerin	190 c.c.
Expressed oil of almond	48 c.c.
Alcohol (95 per cent.)	120 c.c.
Tincture of benzoin (1 in 5)	24 c.c.
Oil of neroli	1 c.c.
Oil of bergamot	1 c.c.
Oil of geranium	2 c.c.
Water	to 1,000 c.c.

Form an emulsion with the tragacanth, expressed oil of almond and water diluting with water until the product measures approximately 500 c.c., to this add the glycerin. Dissolve the tincture of benzoin and the volatile oils in the alcohol. Add this solution to the emulsion in small portions, agitating thoroughly after each addition then add sufficient distilled water to make the product measure 1,000 c.c.

## MENTHOL LOTION

## Shaving Lotion

Menthol	2.5 gm.
Tragacanth	4.0 gm.
Glycerin	12.0 c.c.
Alcohol (95 per cent.)	15.0 c.c.
Water	300.0 c.c.

Allow the tragacanth to swell in the water so as to form a homogeneous mucilage. Add the glycerin and then the solution of the menthol in the alcohol. This preparation may be coloured pink.

## ROLLING OR MASSAGE CREAM

Sweet milk	92.00 c.c.
Borax	2.13 gm.
Boric acid	2.15 gm.
Sodium benzoate	0.36 gm.
Tartaric acid	4.28 gm.
Glycerin	1.50 c.c.

Mix the borax, boric acid and sodium benzoate with the milk and heat the mixture to the boiling point. After removing the heat, add the tartaric acid, and allow the mixture to stand for 24 hours. Then strain the mixture and mix the glycerin with the residue. The cream may then be coloured and perfumed as desired.

## LIQUID ROUGE

Erythrosine	1 to 5 gm
Glycerin	500 c.c.
Alcohol (95 per cent.)	100 c.c.
Rose water	400 c.c.

## VANISHING CREAM

Water	747.50 c.c.
Borax	50.75 gm.
Monohydrated sodium carbonate	4.00 gm.
Glycerin	64.25 gm.
Stearic acid	130.00 gm.
Tragacanth, powdered	3.50 gm.

Place the water, borax, sodium carbonate and glycerin in an enamelled or heavily tinned double-boiler; when quite warm, add the stearic acid, previously broken into small pieces; stir occasionally. When dissolved add the tragacanth, and then stir vigorously; let cool, and stir until smooth. Passing through an ointment mill will improve the texture.

## Miscellaneous

## INSECTICIDES

## JAPANESE BEETLE BAIT

Oil of rose geranium,  
Acetic ether . . . of each an equal quantity.

Beetle traps are baited with sawdust saturated with this liquid.

## JAPANESE BEETLE POISON

Oil of rose geranium	30 c.c.
Naphthalene	50 gm.
Petroleum benzene (70° Baumé)	to 2,000 c.c.

This liquid is used as a trap and poison by suspending a bucket containing some of it, on a tree branch, or by placing the bucket beneath infested plants.

Caution.—This liquid is inflammable

## JAPANESE BEETLE SPRAY

Sulphurated potash	50 gm.
Lime water	1,000 c.c.

## MOSQUITO REPELLENT

Oil of citronella	32 c.c.
Oil of pennyroyal	32 c.c.
Oil of eucalyptus	64 c.c.
Denatured alcohol	to 1,000 c.c.

## LAUNDRY ACCESSORIES

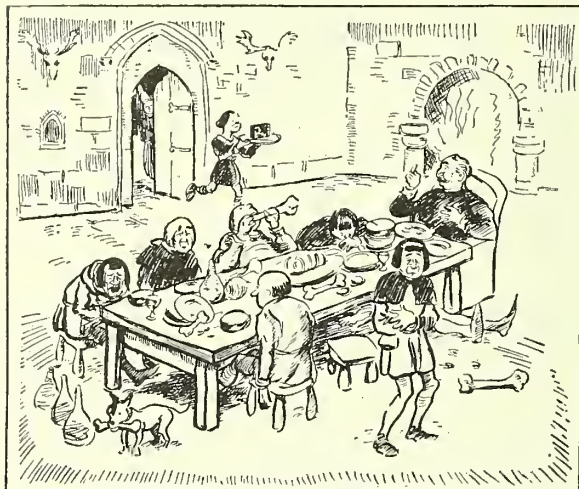
## DRY CLEANERS' BENZIN SOAP

Oleic acid	370 gm.
Stearic acid	80 gm.
Potassium carbonate	80 gm.
Water	70 gm.
Benzin	395 gm.

Solution of ammonia (28 per cent.) . . . 5 gm.  
Melt the stearic acid and incorporate with it the warmed oleic acid. To this mixture add the warm benzin and mix thoroughly. Dissolve the potassium carbonate in the water and briskly stir this solution into the benzin mixture. Finally add the stronger ammonia water and beat into a homogeneous paste.

## Trade Notes

A CHRISTMAS NUMBER.—We have received a copy of the Christmas number of "T.K.'s" Monthly, issued by Thomas Kerfoot & Co., Ltd., Bardsley Vale, Lancashire. Well printed and cleverly illustrated, the contents of this magazine should appeal to the wide circle of readers



"AFTER A HEARTY CHRISTMAS REPAST BARON ROGER  
CALLS FOR HIS OLDE ENGLISH DIGESTIVE CANDY."  
(From "T.K.'s Monthly," December 1932)

who appreciate unforced humour of a topical character. The items include "A New Christmas Story"; "A Cause of Unrest"; and parodies in verse entitled respectively "The Lost Drink" and "The Magic Drop." Briefly, the publication is readable from cover to cover; and we have no doubt that it will receive a welcome wherever it goes.

IN about a fortnight's time, when the Christmas stock (we hope) has been greatly depleted, there will arise the necessity for re-dressing the windows with the everyday lines of business. For this purpose the attractive blue and silver cut-out display (measuring approximately



18 in. high by 24 in. wide) illustrated herewith is worthy of consideration, particularly as there appears to be no onerous condition attaching to its acquisition. Macleans, Ltd., Great West Road, Brentford, inform us that they are prepared to send the display to any chemist on application.

SEIDLITZ POWDERS.—Milner & Coke, Ltd., 11 John Penn Street, London, S.E.13, can supply seidlitz powders to meet the needs of most people, the varieties offered including lemon or orange flavoured and sweet-

ened, extra strong and double strength, as well as the official one.

PRESCRIPTION BOOKS and registers for transactions connected with poisons and dangerous drugs are obtainable from Suttley & Silverlock, Ltd., chemists' printers, 92 Blackfriars Road, London, S.E.1.

VEET BONUS.—Dae Health Laboratories, Ltd., Cunard Road, Chase Estate, London, N.W.10, give details on another page of this issue of an offer they are making in connection with their well known depilatory.

GREETINGS.—Among the wholesale houses who are using the advertising pages of the *C. & D.* to convey the season's greetings to their customers are:—Arthur Berton, Ltd., London, E.C.1; S. Maw, Son & Sons, Ltd., London, E.C.1; W. T. Owbridge, Ltd., Hull; Phillips Yeast Products, Ltd., Park Royal, London, N.W.

RAPHAEL TUCK & SONS, LTD., Moorfields, London, E.C.2, announce four additions (1s. each) to their Happy Youngsters' library. The information in these books is given in an interesting way on various subjects, such as the designing and working of ships, motor cars, etc. The interest of the reading matter, the artistic merit of the pictures (which include a full colour plate in each case), the size and general "get-up" make them astounding value. Messrs. Tuck also publish a series of splendid sixpennies, which has proved so popular that they are adding a further half-dozen titles, making twelve in all, which will appeal to all the varying tastes of boys and girls. The books consist of charmingly written stories and specially drawn pictures, including a beautiful full-colour frontispiece and numerous illustrations in black-and-white. Here again, much knowledge of trains, aeroplanes, ships and motors—all of them subjects of great interest to present-day children—is imparted in a bright and attractive way.

POST OFFICE LONDON DIRECTORY.—Kelly's Directories, Ltd., 186 Strand, London, W.C.2, have just published the 1933 edition of the Post Office London Directory (cloth 55s., leather 70s.). It is divided into sections, including streets, private residents, commercial, trades, and county suburbs. Some idea of the range of information available from this volume may be appreciated from the fact that it tells what are the London parking places and what their rules are; how many legal documents take a penny stamp. There is a list of all London lawyers, all M.P.s; and a list with the pleasant heading (reminding us that the Directory is in its 134th year) "of places throughout England and Wales, with the modes of conveyance from London, also the names of the principal hotels with the names of the proprietors and the market and early closing days." All this is in addition to the comprehensive information the Directory gives on the occupants of every street and by-way and on every profession, trade and commercial undertaking in London.

## Business Changes

MISS D. H. WATERHOUSE, chemist and druggist, has opened a business at 282 Ealing Road, Alperton.

MR. T. BAIRSTOW, chemist and druggist, has taken over the business of G. Duncan, Ltd., 568 Huddersfield Road, Ravensthorpe, Dewsbury.

J. W. VARLEY & SON, chemists, 58 Milton Road, West Hartlepool, have acquired the business of the late Mr. E. C. While, chemist and druggist, 113 Lynn Street, which will be under the management of Mr. J. W. Varley, jun., chemist and druggist.

MR. JOHN D. DUERDIN, chemist and druggist, has disposed of his business at Tuxford to Mr. John Chambers, chemist and druggist, and has taken over the business of Mr. G. M. Henderson, chemist and druggist, 217 Croydon Road, Caterham.



## Births

Notices for insertion in this column must be properly authenticated.

GOOCH.—At Glen-Lyn Nursing Home, Ridgeway, Chingford, London, E.4, on December 8, Evelyn (*née* Warne), the wife of Wilfred H. Gooch, M.P.S., of a daughter.

## Marriages

HELYER—HARRIS.—At Christ Church, Westminster Bridge Road, London, S.E., on December 8, by the Rev. W. J. Edmonds, William Thomas Helyer, M.P.S., to Winifred Dorothy Harris, eldest daughter of Mrs. F. L. Sage, Moosomin, Saskatchewan, Canada.

WALSH—MC CARTHY.—At the Pro-Cathedral, Dublin, recently, John J. Walsh, M.P.S.I., Cork, to Helen McCarthy.

## Deaths

BROWN.—Recently, Mr. Herbert Brown, chemist and druggist, Nelson, Lancashire. Mr. Brown, who was apprenticed and trained in Nelson, passed the Chemist and Druggist Qualifying examination last July.

CONYNGHAM.—At Novara, Farnham Road, Bangor, co. Down, on December 8, after a brief illness, Mr. Robert Stafford Conyngham, M.A., T.C.D., L.R.C.P.Irel., L.R.C.S.Irel., L.P.S.I., youngest son of the late Mr. Henry Conyngham, of Dublin, aged forty-seven. Dr. Conyngham became associated early in life with his father's business (Hayes, Conyngham & Robinson, Ltd., Dublin), and qualified as a licentiate of the Pharmaceutical Society of Ireland in 1910. After becoming a pharmaceutical chemist he took up the study of medicine, and in 1919 passed the examinations for his diplomas. He purchased a practice at Snaith, Yorkshire, where he remained up to last year. Dr. Conyngham was staying with his family at Bangor at the time of his death. He leaves a widow and two children. The interment took place at Mount Jerome Cemetery on December 10. The chief mourners were Mr. W. B. Conyngham and Mr. Ernest Conyngham (brothers), and Mr. Cecil Conyngham (son). Those present from Messrs. Hayes, Conyngham & Robinson included Sir Thomas Robinson, Mr. F. J. Robinson, Mr. W. S. Smith and Mr. A. J. Donnell. Several Dublin pharmacists were also present.

GRAHAM.—On December 7 Mr. John Moffat Graham, chemist and druggist, manager of the Southgate Street, Bath, branch of Boots, Ltd.

HANNAH.—At Old Colwyn, on November 18, Mr. Charles Hannah, Ph.C., aged eighty.

HEMINGWAY.—At 46 Ainger Road, London, N.W.3, on November 24, Mr. Edward Hemingway, chemist and druggist, aged eighty-five.

HODGSON.—At Accrington, on November 22, Mr. John Birtwell Hodgson, chemist and druggist, aged sixty-five.

INGHAM.—Recently, Mr. William Linnell Ingham, chemist and druggist, formerly in business in High Street, Epsom, aged seventy-two.

REES.—On December 11, suddenly, Margaret, the beloved wife of Mr. Harding Rees, chemist and druggist, 31 High Street, South Norwood, London, S.E.25.

STEPHENS.—On December 7, Mr. S. Stephens, a director of Stephens Brothers & Banner, Ltd. The business will be continued by Mr. C. E. Stephens and Mr. D. H. Banner.

WARD.—At Clacton-on-Sea, on November 26, Mr. Edwin Ward, chemist and druggist, aged eighty-one.

WILSON.—At Westcliff-on-Sea, on December 8, Mr. George Wilson, M.R.C.S., L.R.C.P., chemist and druggist. Dr. Wilson qualified as a chemist and druggist in 1904, and carried on business at Southend till he passed his medical examinations in 1922.

## Personalities

MR. F. W. VASEY, chemist and druggist, Reading, has been elected vice-chairman of the Borough Insurance Committee.

MR. G. M. PERKINS, chemist and druggist, Knighton, Radnorshire, has been elected chairman of the local chamber of trade.

MR. A. L. BURGESS, chemist and druggist, Guernsey, has been returned as one of the people's deputies in the States of Deliberation.

DR. B. BARLING has been elected an honorary member of the Guild of Public Pharmacists in appreciation of his services as lecturer to the Guild.

A CERTIFICATE of NATURALISATION has been granted to Isaac Hazan (known as Isaac Chazan), pharmaceutical chemist, 90 Gough Road, Edgbaston, Birmingham.

MR. T. W. ATTENBOROUGH, Ph.C., Jersey, recently lectured on "The Knowledge of Plants" to the members of the Jersey Guild of Science, Arts and Crafts.

MR. LENNARD HART, son of Mr. W. R. Hart, chemist and druggist, Southsea, has obtained a choral scholarship at Cambridge University, tenable at King's College. Mr. Hart, who headed the list of competitors, is an architect by profession, and will continue his studies in this subject at the University.

THE General Purposes Committee of Carlisle City Council has decided to recommend the Council to confer the honorary freedom of Carlisle on Mr. Thomas Ridley, J.P., chemist and druggist, in recognition of his services to the city. Mr. Ridley has been a member of the City Council since November 1906, and is the senior member. He was elected an alderman in 1919, and filled the office of Mayor during the year 1919-20. For the past seven years he has been chairman of the Health Committee, of which he has been a member for twenty-six years. He has been a magistrate since 1921.

## Wills

MR. JOSEPH WHEATLEY, 3 Queen's Road, Edgerton, Huddersfield, Yorks, wholesale druggist, died on August 30 last, leaving £31,924, with net personalty £29,824.

MR. CHARLES NOEL FARLEY, Overdale, Fulwith Mill Lane, Harrogate, Yorks, of Charles F. Thackray, wholesale chemists, who died on June 17 last, left estate gross value £7,830, with net personalty £5,227.

MR. JOSEPH HERBERT BARNES, 204 Shelbourne Road, Bournemouth, Hants, chemist and druggist, a former mayor of the borough, who died on June 10 last, aged sixty-three, left £6,684 14s. 5d., with net personalty £6,636 14s. 5d.

MR. WILLIAM SAMUEL FISH, 65, Crowstone Road, Westcliff-on-Sea, late of 41 Argyle Square, King's Cross, London, W.C., chemists' valuer, of Berdoe and Fish, who died on October 6 last, aged sixty-eight, left estate gross value £16,057, with net personalty £7,781.

MR. JOHN DAVID MARSHALL, 29 Chalfont Court, Upper Baker Street, London, N.W.1, chemist and druggist, late managing director of John Bell & Croyden, Ltd., of Wigmore Street, W., president of the Western Pharmacists' Association in 1913, who died on August 5 last, left estate gross value £7,880, with net personalty £4,883.

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## Information Department

### INFORMATION WANTED

Postal or telephone information with respect to makers or first-hand suppliers of the undermentioned articles will be appreciated.

M/1412. Denaturol	R/1214. Bassorin (original suppliers)
E/1412. Guardent (for pyor-rhea)	B/812. Lahnpackung (continental mud pack)
E/1412. Epithedol ointment	A/512. Dr. Joseph Roualt de Champglen's dragées
E/1412. C. B. lozerges	Vegerio (for diabetes)
N/1412. Brako food	
E/1312. Ped-ora antiseptic deodorant	



# THE CHEMIST AND DRUGGIST

VOL. CXVII. DECEMBER 17, 1932 NO. 2758

## Poisoning Statistics for 1931

THE Registrar-General's latest annual statistical review for England and Wales, covering the year 1931, has just been issued, so far as Part I (Medical Tables: Stationery Office, 6s.) is concerned. The following table shows the general statistics side by side with those for the year 1930:—

	1930	1931
Population (estimated)	39,806,000	39,988,000
Birth rate ..	16.3 per 1,000	15.8 per 1,000
Deaths ..	455,427	491,630
Death rate (crude) ..	11.4 per 1,000	12.3 per 1,000
Poison deaths (corrected figures) {		
Accident ..	134	86
Suicide ..	715	674
Total ..	849	760
Ratio of poison deaths to total deaths ..	1 in 536	1 in 660

Deaths occasioned by coal gas, insect stings, poisonous plants, the administration of anæsthetics and other causes not of direct interest to the drug trade are excluded. The chief thing in this year's figures that strikes the reader who has studied the statistics of poisoning is the gratifying decline in the number of accidental poisonings, which is the smallest on record for England and Wales. By way of showing the continued fall in the proportion of accidental poison deaths to total poison deaths, we may extend the short table we gave when dealing with the Registrar-General's review for the year 1930:

1856 ..	Accidental poisonings, 317; Total poisonings, 457
1886 ..	" " " " 228 " " " " 507
1913 ..	" " " " 211 " " " " 723
1921 ..	" " " " 122 " " " " 479
1924 ..	" " " " 97 " " " " 501
1929 ..	" " " " 99 " " " " 767
1930 ..	" " " " 134 " " " " 849
1931 ..	" " " " 86 " " " " 760

Expressed as a ratio, this comparison means that in 1913 total poisonings exceeded accidental poisonings by about 3.4 to 1; in 1924, by 5.2 to 1; in 1929, by 7.5 to 1; in 1930, by 6.3 to 1; and in 1931, by 8.8 to 1. The full table for three years is as follows:—

Name of Poison	1929		1930		1931	
	Negligence and Accident	Suicide	Negligence and Accident	Suicide	Negligence and Accident	Suicide
A.B.C. liniment ..	2	1	1	4	2	—
Acetic acid ..	—	2	—	2	—	1
Aconite ..	1	1	—	—	—	—
Aconite and belladonna ..	2	—	—	—	—	—
Aconite and camphor ..	—	—	—	—	—	1
Adalin ..	—	—	—	—	—	2
Allonal ..	—	—	—	—	—	—
Ammonia ..	7	25	4	19	3	28
Ammonia and belladonna ..	1	—	—	—	—	—
Ammonium sulphocyanide ..	—	1	—	—	—	—
Antimony chloride ..	—	—	—	2	—	1
Arsenic ..	3	7	6	9	—	3
Aspirin ..	5	6	8	12	6	10
Aspirin and chloral ..	—	—	—	—	—	1
Aspirin and medinal ..	—	—	—	—	—	1
Atophan ..	—	—	3	—	2	—
Atoquinol ..	1	—	—	—	—	—
Barium carbonate ..	—	—	—	1	—	—
Barium sulphide ..	—	—	1	—	—	—
Belladonna (& atropine) ..	—	1	—	3	3	2
Camphor (& camphd. oil) ..	—	1	2	4	1	2

Name of Poi on	1929		1930		1931	
	Negligence and Accident	Suicide	Negligence and Accident	Suicide	Negligence and Accident	Suicide
Camphor & menthol ..	—	1	—	—	—	1
Cantharidin ..	—	—	—	—	—	—
Carbolic acid ..	5	50	6	57	3	63
Chloral ..	1	1	1	—	4	1
Chloral and aconite ..	—	—	—	1	—	—
Chloral and a bromide ..	—	—	—	1	—	1
Chloral and medinal ..	—	1	—	—	—	—
Chloral and morphine ..	—	1	—	1	—	—
Chloretone ..	—	—	—	—	—	1
Chlorinated lime ..	—	—	—	1	—	—
Chlorodyne ..	3	1	—	3	2	1
Chloroform ..	—	2	—	—	—	—
Chloroform and bella-	—	—	—	—	—	—
donna ..	—	1	—	—	—	—
Chloroform and camphor	—	—	—	1	—	—
Coal-tar disinfectants ..	—	—	—	5	—	1
Coal-tar inhalants ..	2	—	2	—	—	—
Cocaine ..	—	1	3	—	1	1
Copper subacetate ..	—	—	—	—	—	—
Copper sulphate ..	—	2	—	1	1	1
Creolin ..	—	—	—	1	—	—
Creosote and formalin ..	—	—	—	—	—	—
Creosote and preps. ..	—	1	1	3	1	5
Cresolene ..	—	1	1	1	1	—
Cresylic acid ..	1	1	1	3	3	3
Dial ..	—	1	1	1	3	1
Dial and aspirin ..	—	—	—	—	—	—
Dial and medinal ..	—	—	—	—	—	—
Digitalis ..	1	—	—	—	—	—
Elsonal ..	—	—	—	1	—	—
Ergot ..	—	—	—	—	—	1
Eserine ..	—	1	—	—	—	1
Eucalyptus oil ..	—	1	—	—	—	—
Formalin ..	—	—	1	—	—	1
Heroin and ecdodyne ..	—	—	—	—	—	—
Hyal ..	—	—	—	1	—	—
Hydrochloric acid ..	4	65	3	53	5	51
Hydrocyanic acid ..	4	25	—	29	—	29
Iodine and preparations ..	—	2	2	—	1	3
Izal ..	—	3	—	—	—	5
Jeyes' fluid ..	1	3	1	8	1	3
Kerol ..	—	—	—	1	—	—
"Kill-germ" fluid ..	—	—	—	—	—	—
Lead acetate ..	—	—	—	—	—	1
Lead oxide ..	1	—	—	—	—	—
Lobelia ..	—	1	—	—	—	—
Luvinal ..	—	1	2	2	—	—
Lysol ..	7	304	15	354	6	284
Lysol and chloroform ..	—	—	—	1	—	—
Medinal ..	6	4	12	2	2	2
"Mercury" and "Mer-	—	—	—	—	—	—
curial poisoning" ..	1	—	—	—	—	—
Mercuric chloride ..	1	3	4	2	1	5
Mercury biniodide ..	—	1	—	1	—	2
Mercury nitrate ..	—	1	—	—	—	—
Mercury oxide ..	—	1	—	—	—	—
Mercury oxycyanide ..	—	—	—	—	—	1
Methyl alcohol ..	—	—	1	—	1	—
Methyl salicyl. & preps. ..	1	1	1	3	1	—
Methyl salicylate & chloro-	—	—	—	—	—	—
form ..	—	—	—	—	—	1
Morphine and medinal ..	—	—	1	—	—	—
Morphine and veronal ..	—	1	—	—	—	—
"Mustard oil" ..	—	—	—	—	—	—
Nicotine ..	—	3	—	2	—	2
Nitric acid ..	—	1	1	—	—	—
Opium, laudan. & morph. ..	3	2	8	5	3	4
Oxalic acid ..	5	28	2	26	2	27
Ozophene ..	—	—	—	1	—	—
Paraldehyde ..	2	—	5	1	1	—
Phosphorus ..	2	3	1	4	2	10
Potash, caustic ..	1	—	—	1	—	—
Potassium bicarbonate ..	—	—	—	—	—	1
Potassium chlorate ..	1	—	—	—	—	—
Potassium chromates ..	—	4	—	1	1	1
Potassium cyanide ..	1	41	3	45	1	63
Potassium oxalates ..	—	1	—	—	—	1
Potassium permanganate ..	—	—	1	—	—	1
Quinine ..	—	1	2	—	—	—
Silver nitrate ..	—	1	—	—	—	—
Sloan's liniment ..	1	—	1	—	—	—
Soda, caustic ..	2	—	1	—	3	1
Sodium carbolate ..	—	—	—	—	—	1
Sodium cyanide ..	—	2	—	—	—	2
Sommitaine ..	—	—	1	—	—	—
Someryl ..	—	—	1	—	—	—
Strychnine (& med. form.) ..	5	11	3	9	3	8
Strychnine & bella-	—	—	—	—	—	—
donna ..	—	—	—	—	—	1
Sulphonal ..	—	—	1	—	1	—
Sulphuric acid ..	—	7	2	3	2	7
Sulphurous acid ..	—	1	—	—	—	—
Thallium acetate ..	3	—	—	—	—	—
Turpentine and mixtures ..	1	2	—	1	—	1
Veronal ..	1	6	4	3	6	5
Yohimbine ..	1	—	—	—	—	—
Zinc chloride ..	1	4	—	1	—	—
"Zinc salt" ..	—	—	1	—	—	1
Kind not stated ..	8	20	6	19	7	16

# Harrison Memorial Lecture

THE second evening meeting of the present winter session of the Pharmaceutical Society, held at 17 Bloomsbury Square, London, W.C.1, on December 13, was the occasion of the delivery of a Harrison memorial lecture and the presentation of the Harrison lectureship medal. The lecturer and medallist was Sir Henry Dale, C.B.E., F.R.S., M.D. (director of the National Institute for Medical Research). The president (Mr. F. Gladstone Hines) was in the chair, and with him at the table were the lecturer, the treasurer (Mr. A. H. Jenkin) and the secretary (Mr. H. N. Linstead). A telegram of apology for absence was received from the vice-president (Mr. J. Keall). The audience, which filled the lecture theatre, included Mrs. Harrison, Dr. K. H. Coward, Mrs. Freke, Dr. F. H. Carr, Dr. George Graham, Dr. C. H. Hampshire (chairman of the British Pharmaceutical Conference), Dr. W. H. Linnell, Dr. Robb, Dr. Stanley White, Mr. R. R. Bennett, Mr. G. R. Boyes, Mr. E. T. Brewis, Mr. C. E. Corfield, Mr. H. Davis, Mr. H. Deane, Mr. A. R. Melhuish, Mr. C. A. Noble, Mr. J. Wicliffe Peck, Mr. P. F. Rowsell, Mr. P. A. W. Self, Mr. H. Skinner, Mr. G. A. Tocher, Mr. T. E. Wallis and Mr. W. Wyatt.

The PRESIDENT welcomed the members and visitors to the Society's house. As they were aware, this meeting took a special form. They had invited Sir Henry Dale to deliver the Harrison memorial lecture and had awarded him the Harrison lectureship medal. The president then called upon Sir Henry Dale to deliver the lecture entitled

## Therapeutic Substances of the Future

By H. H. DALE, C.B.E., F.R.S., M.D.

### [ABSTRACT]

AFTER an early participation in the research work of your own laboratories, Edward Harrison spent most of the period of his independent activity as an analyst and consulting chemist, his line of practice being chiefly concerned with drugs and medicinal substances. It was an honourable calling, demanding scientific knowledge and ability, and a high integrity, and performing an essential service to the interests of the public at large, as well as to those of industry. It was not one, however, which easily offered the kind of opportunity which wins public recognition. It is only the exceptional man who, in such a career, makes his ability and his force of character known to more than a relatively small and intimate circle. Edward Harrison was such an exceptional man. Investigations which he carried out for the British Medical Association, revealing the simple, often trivial, and sometimes dangerous properties of widely advertised secret remedies, gave him a task after his own heart. It made demands not only on the knowledge and skill acquired in the normal course of his professional work, but on his adaptability and ingenuity; and it gave an outlet to his sane enthusiasm and large sympathy for the interests of his credulous fellow citizens. Harrison became a name and a personality in the world of medicine as well as in that of pharmacy. The story of his services to his country and her allies in the European War has often been told. Nothing can dim the splendour of that achievement or lessen the debt of his countrymen and of the whole world to the man who gave everything that he had to give—all his knowledge and his scientific enterprise, all his stored and disciplined energy and enthusiasm, and, in the end, the waning reserves of his bodily strength—to fight a new peril to human life, and a new threat to the ultimate issue of the world's tragedy.

When Edward Harrison died, in the hour of a victory which owed so much to him there were many, who otherwise might never have known his quality, who had come to think of him as a man marked for some kind of distinguished service in the reconstruction which was to follow the chaos of war. It is useless now to specu-

late on the line of opportunity which his ability and his character would have found. We may remember, however, that, in the normal years, his own natural interest had been centred on improving the material means of treating human ailments, on the exposure of pretence, and on the creation of high standards for what was real and honest. When human folly and wickedness threatened the lives of his countrymen and the ideals of his country with a new and unnatural danger. Harrison had sprung to the call. I do not think that we shall err if we suppose that in some way, had he lived, he would have wished to resume his service in the endless war against the natural dangers to human life and health, against the physical ills which natural enemies and our ignorance of the means of encountering them inflict upon suffering humanity. For all of us the shock of the European catastrophe had so dulled perception that the great pandemic of influenza, which followed it so closely, passed almost unnoticed. Yet, in its progress across the world it slew far more of our fellow men than had fallen in all the stricken fields of all the armies. I think that Harrison would have wished to take his stand on some part of the front in the greater and unending conflict in which the medical sciences and chemistry must march as allies, with pharmacy always adapting itself to the ever-changing demand on the essential service of supply. And it seems to me that we shall not unfittingly honour the memory of one whose habit it was to look forward, if we give some thought this evening, not only to the past and to what has been won, but more particularly to some of the problems of which the solution lies in the future.

## THERAPEUTICS TRANSFORMED

On an earlier occasion I have spoken here of the remarkable change which has been transforming the whole aspect of therapeutics within a generation, and to which pharmacy must adapt itself if it to retain its function as the expert supply service of therapeutics. Some of the old-fashioned vegetable drugs, requiring the skill and knowledge of traditional pharmacy to obtain and identify them, and to present their active constituents in suitable form for use in therapeutics, will remain. The value and reputation of some will even be enhanced. While, however, drugs with recognisable and specific actions on identifiable causes of disease will doubtless retain their position for some time to come, though under a growing threat of replacement, there can be little doubt that the doom is already written of a great proportion of the many drugs of vaguer action.

Let us take first the drugs which are given for the relief of painful or unpleasant symptoms, or to raise a lagging natural function to normal activity, or a normal one to temporary excess. It is curious now to reflect how nearly exclusive a rôle in therapeutics was played by medicaments of this class only thirty or forty years ago. If we exclude the two which I have mentioned, and the use of mercury and iodides in syphilis, practically every other drug or remedy then at the physician's disposal aimed at the relief of symptoms rather than the eradication of their cause. Look at the drugs in the Pharmacopœia of those days, or outside it, and consider the actions attributed to them by the physician—purgatives, diuretics, sudorifics, astringents, expectorants, antipyretics, ecboics, stimulants, hypnotics, analgesics, and even, when nothing more was expected of them than an unspecified change in the patient's condition, alteratives. There was an overpowering redundancy. The new British Pharmacopœia produced by the devoted work of an expert Commission, has already done a great work of elimination, and balanced it by the introduction of many remedies of newer types, and by instructions which should lead to a more scientific preparation, and therefore to an exacter use of some of the older ones which remain, but a pharmacopœia can only, and should only,



attempt to codify what has been definitely accepted, and it must, of necessity, present a conservative record of change. Change in practice must always be in advance of the pharmacopœial record; and one of the obvious changes in practice during recent years has been in the extent to which it has moved away from the Pharmacopœia, and towards the employment of new and proprietary remedies. The output of synthetic enterprise and ingenuity is bewildering in its abundance and variety; and there can be no doubt, I think, that in some directions, particularly in the production of anæsthetics, both local and general, hypnotics and analgesics, it has given to medicine resources superior to any which the old-fashioned pharmacy could provide. On the whole, however, I am inclined to think that, in relation to the immense expenditure of money and brains on this search, by chemical synthesis, for better remedies for the relief of symptoms, the results for the efficiency of medical treatment, and for the health and happiness of mankind, have been discouragingly small. Some of the old remedies, of well-established activity in corrective stimulation of certain natural functions, can still make a strong claim. Nobody, to take examples, has found an artificial drug which can really replace digitalis, or the traditional purgatives, or ergot; any advance in the departments of therapeutics in which these find their proper applications, seems more likely, as yet, to come from fuller knowledge of the chemistry and action of the old familiar drugs than from their replacement by synthetic novelties. And such fuller knowledge is certainly needed. But even supposing, as we well may, that synthetic chemistry goes much further than its present promise, in finding substances for this artificial relief and correction of symptoms, more effective and trustworthy than any that traditional pharmacy can give us; even supposing that the synthetic laboratory eventually gives us purgatives, hypnotics, analgesics, diuretics, ecboics and the rest, better than any that we yet possess; I think that there will still be a deeper reason for dissatisfaction with its service to medicine in these directions. Nothing is more certain, I think, than the gradual awakening of medicine to the conception that its real aim should be not the palliation of the results of ill health but the preservation of health to forestall them.

#### LAXATIVES, APERIENTS AND PURGATIVES

Take, as an example, the use of the group of drugs which probably figure more often in the practice of the pharmacist than any other—the laxatives, aperients and purgatives. It is not so long ago, and probably almost within the memory of some still living, that therapeutics consisted largely of the alternative between purgation and bleeding, on the one hand, and building up with tonics and roborants, on the other. We think that we have progressed far beyond that period, but I do not think that the attitude has wholly passed away, which regards the regular use of aperient drugs as a normal need of a large proportion of civilised people. On the other hand, there is a growing body of opinion which regards this prevalent need of an unnatural stimulant to the discharge of a physiological function as a reproach to medicine and to its care of the public health.

The scientific study of the qualitative factors of a satisfactory diet, for the maintenance in health of all the functions of the body, has only begun in recent years. And, as you know, quite apart from the question of a proper proportionate adjustment of the major, energy-producing constituents of such a diet, the significance of a series of substances, present in minute proportions in natural, fresh foods, for the healthy function, growth and development of various organs and systems of the animal body, has been rapidly revealed. One of these, I think we may say with some confidence, has now been prepared, identified and isolated in a state of purity—the pure vitamin D or calciferol. Another, the vitamin C, present in fresh fruits and vegetables, the absence of which from the diet is responsible for scurvy, has now with great probability been identified as a peculiar glycuronic acid, which its discoverer, Szent Gvörgey, has called

hexuronic acid. And, if the identification should be made certain, there is every reason to believe that methods will be devised for obtaining this substance also on a large scale, so that its production, too, will become a matter for expert pharmaceutical manufacture. I think we may be rightly proud of the part which the British pharmaceutical industry has played in these new developments. You will see, however, that the identification of these substances has not arisen from pharmaceutical investigation in the ordinary sense. They are not active principles of drugs used for the alleviation of symptoms. They are constituents of normal, unsophisticated foods; their adequate presence in the diet will prevent the symptoms from appearing, and their remedial administration, if the symptoms have arisen through their defect, will remove the cause instead of artificially modifying the result. Is it too much to hope that research, in this and in other directions, on the necessary constituents of an adequate and healthy diet, will eventually expose the roots of the alimentary and nutritional disorders which figure so largely in the persistent defects of health, so common in man living under the artificial conditions of an industrial civilisation?

#### THE ENDOCRINE GLANDS

Consider again the change which has been produced in the aspect of therapeutics by the recognition of the functions of the endocrine glands. The treatment of myxœdema and minor thyroid deficiencies with thyroid substance, of diabetes mellitus with insulin, diabetes insipidus with posterior pituitary extract, pernicious anæmia with liver and gastric mucous membrane—all these are therapeutic measures of established success, in which the causal defect of a hormone is directly made good in place of the attempts to control the resulting symptoms by artificial remedies. Treatments of Addison's disease by preparations of the suprarenal cortex, and of defective function of the genital apparatus by the appropriate hormones, are already coming clearly into view. The chief danger to progress in this direction may well be excess of eagerness leading to empirical administration of extracts of unknown potency from various endocrine organs, on a vaguely suspected connection between ill-defined symptoms and some unknown hormonal defect. Sooner or later, however, it can hardly be doubted that a fuller knowledge will enable the effects of minor endocrine deficiencies to be clearly recognised, and that, over a much wider field, it will become possible to deal with causes, by natural replacement or prevention, where at present we are limited to an unnatural palliation of symptoms. These changes in the direction of therapeutic aim and effort must have their profound reactions on pharmacy. I do not for a moment suppose that symptomatic treatment will disappear. But symptomatic treatment is losing, and will progressively lose, its former undue and unscientific predominance. If medicine, indeed, should ever achieve its proper aim, in the extinction of therapeutics by a rational prevention, pharmacy, the handmaid of therapeutics, must be prepared to die with it in a common sacrifice.

#### DISEASES DUE TO INFECTIONS

Hitherto, we have been considering diseases and departure from health due to some lack of substances needed by normal, healthy function—substances furnished by the organs of the healthy body itself, or brought to it in the food. Nobody would wish to talk about the treatment of an infection which can be prevented by removing its means of access to the human body. Spotted typhus, which formerly took a regular and heavy toll among the poorer classes, and raged in the gaols and threatened all connected with the custody and the trial of prisoners brought from them, has been expelled from this country simply by improvement of general hygienic conditions. Nobody knew why it went until it was discovered that the infection was carried from man to man by body lice. Trench warfare, which automatically abolished all normal standards of personal cleanliness, gave the lice their chance again; but, fortunately, the infection which they spread in our army was not the virulent typhus, but the much milder, though otherwise



similar, trench fever. After the war, with the collapse of all economic organisation in Eastern Europe, typhus raged there again. Similarly, bubonic plague, of which London suffered a last serious visitation in the seventeenth century, has probably gone from us for ever with the extermination of its primary victim and carrier, the old black rat, by its hardier, but less dangerous, brown cousin. Typhoid or enteric fever, we thought, had been practically banished from this country by the provision of scientifically controlled water supplies in all the great centres of population; though the recent outbreak in a district of Yorkshire gives warning of the continued need for vigilance.

#### A GLOOMY RECORD

In the case of the infections due to bacteria, I think it must be recognised that treatment by drugs and unnatural chemical agents has a gloomy record of almost complete failure. Relief of resulting symptoms they still may give as before, but for none, I think, can any claim be upheld for going to the root of the matter, by directly stopping or limiting the multiplication of the infecting bacteria, or directly neutralising the poisons which they produce. When Ehrlich turned his attention to the possibility of producing artificial, synthetic remedies which would directly attack infecting organisms in the living body, the first attempts were directed to the discovery of such internal antiseptics, for the treatment of general infections by ordinary bacteria. The failure was practically complete, and has remained so in the hands of subsequent investigators. For a time there seemed to be some promise of an exceptional success in Morgenroth's trial of artificial derivatives of cinchona alkaloids, as remedies for pneumonia. In fact, however, the general result of such attempts may be fairly summarised, I think, in the statement that nobody has yet discovered an artificial substance which will directly and effectively stop the progress of a bacterial infection in the living body, when given in doses which the body itself can tolerate. For practical purposes, in the direct treatment of infections due to bacteria, we are still thrown back on reinforcement of the defences which the body itself produces against the invading organisms and their poisons—on the preventive stimulation of the body to the production, in advance of antibacterial substances and antitoxins or the artificial introduction of ready-made natural antidotes of this kind, produced in the blood of horses or other animals. These immunological remedies form a group of substances entirely different from any which the older pharmacy contemplated. But the new Pharmacopœia already includes an important series of them; and, unless the near future should bring a much greater success than the past in the discovery of artificial chemical antagonists for the infections of this type, the next Pharmacopœia can hardly fail to extend the list of these, nature's own antidotes.

The position becomes entirely different when we pass from the infections by ordinary bacteria to diseases caused by the spirochaetes—a special group of bacteria for which some observers have found affinities with the protozoa—and to others caused by the true, parasitic protozoa. Here, again, the parasites being known, and the means of their transmission being identified, prevention of further spread of the infection, and its ultimate abolition, would seem to be the natural ideal. In none of the diseases of this group, however, has such prevention yet achieved more than a limited and local success. When Ross, at the prompting of Manson's prediction, had at last succeeded in demonstrating the transmission of the parasites of malaria by mosquitoes, the way seemed open to the liberation of the tropics from that great endemic plague. The measure of the extent, however, to which such ideal preventive measures have fallen short of general success is given by the fact that malaria still remains the greatest of the world's hygienic problems.

Bruce's discovery of the transmission by the bite of a tsetse fly of the trypanosomes causing the sleeping sickness of Tropical Africa, as he had previously shown for the analogous disease nagana, in domestic cattle, might have seemed to open a way to the elimination of these diseases by war on the insects which

spread them. Something has been effected in controlling their spread and thus limiting the danger; but the diseases remain, and the call for their treatment remains urgent. Similarly with the other diseases of this group—with syphilis, relapsing fever, tropical dysentery, and the rest—we may properly hope that prevention will one day become effective. In the meanwhile, however, and in face of the present imperfections and limited success of prevention, the problems of treatment remain with us. And it is just in the case of these diseases caused by spirochaetes and protozoa, to which Nature provides, at best, a feeble defence of acquired immunity, that the quest for new artificial remedies, attacking the root of the trouble by killing the invading parasites or stopping their further propagation in the body, has achieved its most brilliant success and given the greatest promise for further development. Most of you will realise the transformation which has already been effected in the treatment of the spirochaetal diseases, syphilis and relapsing fever, by Ehrlich's systematic search for a remedy dealing directly with the infecting organisms, and by the resulting discovery of salvarsan, now included in the Pharmacopœia in the form of its more conveniently administered derivatives, neoarsphenamine and sulpharsphenamine. The treatment of African sleeping sickness by the arsenical organic amide, tryparsamide, on the one hand, and by the complex substituted urea known as germanin, on the other, has given results of real life-saving value in themselves, and of even greater importance in the promise they afford of the eventual discovery of a safe and radically effective remedy for this terrible disease. Kala-azar, another fly-borne infection by a protozoan, causing a highly fatal fever, has proved unexpectedly amenable to treatment with relatively simple compounds of antimony.

#### MALARIA

In the case of malaria, the possibility of progress in specific treatment was seriously compromised by the impossibility of cultivating the parasite artificially, or of transferring it to animal species other than that of man himself. In relatively recent years, however, real progress has been effected by experimental work, in which analogous infections of small birds have been used as the subject of experimental treatment. Already two new substances of definite value, in the treatment of human malaria also, have thus been brought into use; one of them, a quinoline derivative known as plasmochin, having apparently superior value to that of quinine as a prophylactic, and the other, an acridine derivative known as atebrian, apparently interrupting the cycle of development of the parasites in the body at a different stage from that at which either quinine or plasmochin intervenes. It is too early to suggest that something better than quinine has yet been found, or that these new agents are likely to find a permanent value as more than valuable supplements to our resources for the treatment of malaria, or that they will greatly diminish the reliance on quinine and the other natural alkaloids of cinchona for regular treatment. But the position has so far been radically changed that methods by which experimental progress may be made have been found, and will improve with further and wider study; that it has been shown that artificial substances, of definite and highly specific action on malarial infection, can thus be discovered; and that we are no longer left with the depressing conclusion that nature, in evolving the cinchona alkaloids, had already achieved the imperfect best in this direction.

#### ULTRAMICROSCOPIC VIRUSES

There remains still, as a great and practically untouched problem for the future, the treatment of the important group of infective diseases of which the causal agents are neither protozoa with a relatively high organisation nor bacteria of the types rendered visible by the highest powers of the microscope, but viruses of a type still often referred to as "invisible" or "ultramicroscopic." The most advanced developments of microscopical technique seem to be bringing some of them within the range of direct vision and photography.



There are others so minute as to be still beyond the range of any kind of visual demonstration; and though the argument from analogy grows steadily stronger in favour of regarding these also as probably of the nature of simple organisms, their size, in some cases but a small multiple of that of an ordinary protein molecule, forbids us to attribute to them anything more than a very elementary type of organisation. They seem, in a sense, to be almost on the border line between unorganised toxic principles and organised living beings. Experimental study of the viruses presents a series of unusual difficulties. Yet to such viruses, so peculiarly inaccessible to investigation by ordinary methods, are due some of the most widely spread diseases of man, of animals, and of plants. Small-pox, chicken-pox, measles, mumps, whooping-cough, influenza, the common cold, infantile paralysis, rabies, dog distemper, foot-and-mouth disease, cattle plague, fowl plague, swine fever, and many more; surely a grisly enough array of subtle and invisible enemies for man and his animal servants. In most cases the individual who withstands one attack is left with a high degree of immunity against a further infection by the same virus; and what has been achieved hitherto in the way of preventive or curative treatment has been entirely dependent on this natural immunity. No doubt further progress will be made on these lines. For the artificial treatment of these common diseases by drugs and chemical substances, on the other hand, we have no scientific basis or any definite record of practical achievement. It has, indeed, long been a reproach to medicine that it has been almost powerless to do anything for the children attacked with such common infections, except to isolate the victims in an effort to limit the spread of the epidemic, and to apply a purely palliative treatment to their symptoms. Since the viruses cannot be grown in artificial culture, and in many cases are closely specific for the human species, no artificial curative sera can be prepared, and we are limited to the use of human sera from recovered patients.

What will chemistry and pharmacy be able to offer us in the future in the way of specific agents which will cut short an attack of any of these diseases? From what we know at present, the outlook is anything but hopeful. I think, however, we may take comfort from the thought that the nineteenth century was already nearing its end before the transmission of malaria by a mosquito was demonstrated; that the present century was well begun before we knew that African sleeping-sickness is due to a trypanosome; and that the discovery of the spirochæte of syphilis came some years later still. The discovery of salvarsan, the first great achievement of the new method of chemotherapeutic research, was recorded only some twenty years ago. At present we are passing through a period of rapid progress in the study of the viruses, and we are now getting the first clear glimpse of their nature. Who can say that, from this new vision of our enemies, the fire of some imaginative genius may not kindle, for the forging of weapons of a type yet unforeseen, to give us victory at last, on yet another front of the battle for life and health?

#### Vote of Thanks

The PRESIDENT said he proposed to take upon himself the function of offering thanks for Sir Henry Dale's inspiring lecture. The method by which the exposition was given was one which could proceed only from a rich fund of knowledge. His pleasant duty was to ask Sir Henry Dale to accept the Harrison medal. They desired to honour the memory of Colonel Harrison, and they recalled his unforgettable services to his country and the allied forces in the great war. They paid their tribute in affectionate remembrance, and he therefore asked Sir Henry Dale to accept the memorial medal.

Sir HENRY DALE, in accepting the honour, said that association with such a man as Edward Harrison meant much to him.

LEAGUE OF NATIONS.—Model administrative codes for the conventions on narcotic drugs dated February 19, 1925, and July 13, 1931, together with an appendix containing forms used in the United Kingdom, have been published (price 1s.) by Allen & Unwin, 40 Museum Street, London, W.C.1.

## Pharmaceutical Society of Great Britain

### Branch Meetings

**Bath.**—The annual report of the secretary (Mr. T. J. Cornish) for the year 1932, after noting with regret the sudden death of the president (Mr. Rees), states that from the social standpoint the year has achieved a very fair success. The report passes in review the principal events of the year, and adds that the Branch now consists of 105 members and 12 student-associates.

**Ipswich.**—A meeting of the Ipswich and Suffolk Branch was held on November 14, Mr. L. Piper (president) in the chair; the attendance was excellent. Mr. E. Saville Peck (a member of the Society's Council) gave an address on *The Introduction and Appendices of the British Pharmacopœia, 1932*. Mr. Peck described the International Agreement and the various preparations conforming to the Agreement. He mentioned changes in nomenclature, fresh and concentrated infusions, distilled and concentrated aromatic waters, and methods of sterilisation. During the discussion which followed, questions were asked by Dr. R. J. Steeds, Messrs. Collins, Piper, Stearn, Stratton, Symonds, Wiggan and others. Mr. Peck said he thought there should be no difficulty with new names if the preparations were labelled with those names and the old names were shown as synonyms. The thanks of the meeting were expressed by Messrs. J. C. Wiggan and S. J. Stearn.

## National Pharmaceutical Union

### Branch Meeting

**Ipswich.**—The annual meeting of the Ipswich and Suffolk Branch was held on December 7, Mr. S. J. Stearn (president) in the chair. The treasurer presented the balance sheet, and the following officers were elected for the ensuing year:—*President*, Mr. S. J. Stearn; *Treasurer and Secretary*, Mr. L. Piper, The Wolsey Pharmacy, St. Nicholas Street, Ipswich; *Committee*, Messrs. C. Collins, J. A. Symonds, and J. C. Wiggan. A vote of thanks to the retiring officers was proposed by Mr. Smalley. The chairman asked Mr. G. A. Mallinson (secretary of the N.P.U.) to address the meeting on *National Advertising*. Mr. Mallinson dealt first with the necessity for a scheme. He pointed out that even where protection was given to pharmacy in Continental countries, chemists were seeking to attract business to their shops. The formation of a National Pharmaceutical Publicity Association was explained, and the proposed membership fee and annual subscription suggested. The supporters of the Association would receive a sign, which would be featured in the advertisements, and also pamphlets explaining the nature of the pharmaceutical qualification. Mr. Mallinson emphasised that it was the duty of every member of the craft to do something to help pharmacy. The co-operation of the wholesale trade was to be asked for, and the speaker thought there was no doubt that it would be forthcoming. After questions had been asked and answered, it was agreed to support the proposed Association. In his reply to questions, Mr. Mallinson expressed the opinion that the omission of the words "Prepared by" from the present-day chemists' labels was a great mistake.

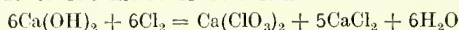
BOOK ON SALESMANSHIP.—The second edition (substantially rewritten and enlarged) of C. C. Knights's "Training for more Sales," has been published at 5s. by Pitman & Sons, Ltd., Parker Street, London, W.C.2.

# Solution Phenomena in Pharmacy

By F. G. Hobart, Ph.C.

## Salting-Out

**A** PRACTICAL application of salting out occurs in the manufacture of hard soap. The sodium salts of the fatty acids present, are separated from solution in the form of a white curd by the addition of strong brine. It should be noted, however, that this separation is not wholly due to considerations of "solubility product": part of the soap is in colloidal solution and is precipitated, therefore, by the electrolytic effect of the sodium chloride. Before the introduction of the modern method of preparation of potassium chlorate, by the electrolysis of a hot solution of potassium chloride, J. von Liebig's process, the chlorination of a hot suspension of lime, was the manufacturing method, the immediate product being a solution containing five molecules of calcium chloride to one molecule of calcium chlorate:—

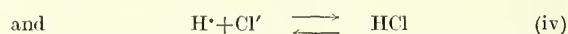
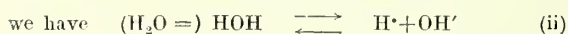
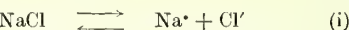


To the clear concentrated solution, a slight theoretical excess of potassium chloride is added, and, by the operation of the solubility rule, potassium chlorate, which is considerably less soluble than either of the chlorides present, and has only one-tenth the solubility of calcium chlorate, is salted out.

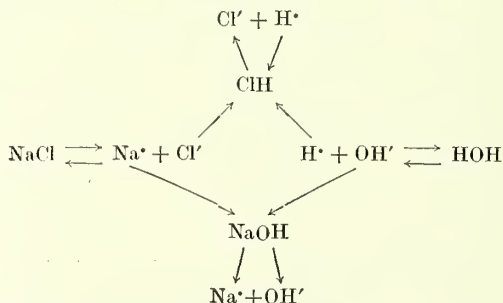
Special cases of precipitation, of course, occur which are not referable to principles of ionisation. In practical pharmacy, if we are dispensing a mixture containing ferri et ammonii citras and a large proportion of strongly alcoholic tincture, on the addition of the latter to the iron preparation in solution, the spirit combines with the water and less water is therefore available for dissolving the substance in question, which falling from solution as a copious, muddy-brown precipitate, forms a most unsightly mixture. It follows from general theory of ionisation that the real acidity of a substance is the expression of the hydrogen-ion concentration of its solutions: comparative alkalinity depends on the production of hydroxyl-ion. Hitherto only primary ionisation has been considered, but water, itself, is to a slight extent ionised, and it follows that if, for example, sodium chloride be in solution,

## Hydrolysis,

which is a reversion of the process of neutralisation, occurs to a slight extent. In addition, therefore, to the equilibrium (i)

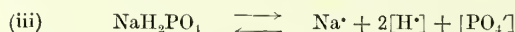
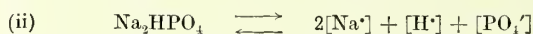


or the whole system may be expressed diagrammatically:—



In a solution of sodium chloride, the products of the hydrolysis, namely, NaOH and HCl, are both strongly

ionised, and it follows that this secondary ionisation produces a preponderance of neither hydrogen-ions nor hydroxyl-ions, and the solution, therefore, remains neutral. A solution of potassium citrate will contain an excess of hydroxyl-ions owing to the citric acid produced by hydrolysis being relatively unionised, whilst ammonium chloride, since ammonia is a very weak base, is faintly acid in solution. The rules for the reaction of the aqueous solution of a "neutral" salt may therefore be summarised: (a) A weak acid and a strong base yield an excess of (OH<sup>-</sup>) and tend to be alkaline; (b) a strong acid and a weak base yield excess of (H<sup>+</sup>) and tend to be acid; (c) strong acids with strong bases and weak acids with weak bases produce neutral solutions. Since the resultant acidity (or alkalinity) of the solution is limited by (i) the ionisation of water, itself, as well as (ii) the degree of secondary ionisation of the very small amount of the new substances produced by hydrolysis; it follows that, in any case, the real acidity is very slight. The foregoing considerations apply, of course, only to "neutral" salts; in the case of an acid salt, an excess of hydrogen-ion is present in the solution as the result of the primary ionisation. Consider the reaction of the three orthophosphates of sodium. On passing into solution primary ionisation occurs as follows:—



In (i) and (ii) the base NaOH is formed by hydrolysis, and is strongly ionised; the H<sub>3</sub>PO<sub>4</sub> produced simultaneously is a very weak acid, hence both solutions are alkaline despite the presence of some hydrogen-ions in (ii) formed by the primary process. In (iii) however, there is an excess of hydrogen-ion and the solution is acid in reaction. At this stage it is necessary to define more exactly what is meant by the terms neutrality, acidity, etc., which hitherto have been applied without any exact definition. Since acidity connotes an excess of hydrogen-ions and alkalinity an excess of hydroxyl-ions in any given solution, it follows that when a solution is neutral the oppositely charged ions are present in equal proportion. The

## Standard of Neutrality

is pure water, and the standard solution in relation to which the concentration of ions is expressed, is regarded as containing one gram. of hydrogen-ions per litre of water. A normal volumetric solution of an acid if it were completely ionised would be equivalent to this standard. In pure water the ionic concentration is

$$[\text{H}^+] \times [\text{OH}^-] = 1/10^{14} = 10^{-14}$$

that is to say, it is  $N.10^{-7}$  acid, and  $N.10^{-7}$  alkaline, where the symbol  $N$  denotes a normal volumetric solution. By the convention proposed by Sørensen, and now generally adopted, the symbol  $p$  is used to denote the power by which to must be raised (i.e., it is the logarithm of the number) to express the concentration of the ions, and the minus sign is discarded; the foregoing expression then may be rewritten:

$$p\text{H} + p\text{OH} = 14.$$

Note that since we are now dealing with indices the multiplication sign  $\times$  must be replaced by the sign of addition  $+$ . Moreover, as the product of the hydrogen-ion and the hydroxyl-ion is a constant, the retention of the exponent  $p\text{OH}$  is unnecessary; the reaction of a solution can be expressed as its  $p\text{H}$ , and, if desired, the value of  $p\text{OH}$ , i.e., the true alkalinity, is  $14 - p\text{H}$ , thus the reaction of water becomes expressed as  $p\text{H}7$ . It must further be carefully noted that, because of the change

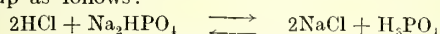


of sign, values of  $pH$  above 7 represent an alkaline reaction and below 7 an acid reaction. It is, therefore, obvious that in expressing the reaction of a solution in terms of an indicator, the particular indicator intended must be stated. The following table shows the hydron concentration with distinctive colour values of some common indicators:—

Indicator	$pH$	Colour
Bromo-cresol purple ..	5.2	Yellow
	6.8	Purple
Cochineal .. ..	4	Yellow
	5	Brick
	6	Lavender
Congo red .. ..	3	Blue
	4	Violet
	5	Scarlet
Corallin (rosolic acid)	6	Yellow
	7	Pink
	8	Red
Litmus .. ..	4	Red
	4.7	Purple
	8	Blue
Methyl orange .. ..	2.9	Red
	4	Orange
	5	Yellow
Phenolphthalein ..	10	Red

From inspection of the foregoing table it is obvious that a solution, although distinctly acid, may fail to produce a colour change, for example, in litmus, whilst a  $pOH_4 (= pH_{10})$  is necessary to redden phenolphthalein. Hence the necessity for a definite standard of neutrality based on  $pH$  value. The range of hydron concentration values observable by distinctive colour change in the above indicators suggests a relatively easy colorimetric method for the determination of the  $pH$  of a solution. A whole series of indicators are available for the purpose, and for less accurate determinations a "universal indicator" has been devised. For coloured solutions, or where greater accuracy is required, methods depending on the calculation of hydron concentration from measurements of electrical conductivity by the hydrogen electrometer are used.

The term "buffer" which is used in connection with certain substances employed in tintometer methods of  $pH$  determination needs explaining. A buffer is a substance which, by its addition to a solution, diminishes the degree of ionisation of the original salt. If, for example, a proportion of sodium phosphate is added to a solution of hydrochloric acid, some of the  $HCl$  is used up as follows:—



the phosphoric acid produced is so poorly ionised that the total hydron concentration is reduced. In Dakin's solution, prepared by the older methods, boric acid is added, partly to neutralise the strongly caustic  $NaOH$  which results from double decomposition between the excess of  $Ca(OH)_2$  originally present in the "bleaching powder," and the  $Na_2CO_3$ , and partly as a buffer to stabilise the solution. Boric acid is feebly polybasic, and its use subtends a balanced solution containing hypochlorite with polyborates of sodium, and small quantities of hypochlorous and boric acids.

The determination of hydron concentration is of extreme importance in many biochemical connections. Blood has a  $pH_{7.5}$ , and a very slight deviation from this value is of grave physiological import. This, too, is the most favourable condition of hydron concentration for the growth of pathogenic bacteria, whilst in brewing, dairy work, etc., the optimum  $pH$  value for the activity of the particular organism used, is now carefully studied. Researches on the  $pH$  of the contents of the gastro-intestinal tract in relation to diet and rickets have been made by Grayzel, Miller and other workers. In pharmacy a number of values for the  $pH$  of various tinctures, etc., have been published by R. B. Smith, whilst Krantz and Gordon have investigated the effect of hydron concentration in relation to emulsions. C. Morton has contributed the results of a number of experimental studies of the equilibria in solutions of a number of diacid alkaloidal bases, including the cinchona alkaloids, whilst Evers, Kolthoff, and

others have investigated the optimum conditions for the titration of these bases in the course of drug assay. The official method for the estimation of citral in lemon oil, and the indicators chosen in the two titrations, is based on the fact that the  $pH$  of hydroxylamine sulphate is little more than one-half that of the free base.

### Ionic Medication

The term "ionic medication" is often applied to the simple *per os* administration of a substance which ionises in solution. The term is also used to indicate a special form of such medication—iontophoresis—which has been extensively used. Iontophoresis consists (i) in the introduction into the tissues of the body, of ions from a solution of an electrolyte by means of an electric current; or (ii) the use of a current to promote ionic exchange in the tissues. Analytical chemistry provides some important examples of the application of the theory of ionisation. In the familiar

### Group Analysis

in order to effect an initial separation between the metals in Group II ( $Fe\ Al\ Cr$ ) from certain metals in the groups following, ammonia solution is added in the presence of an excess of ammonium chloride. If ammonia alone were used, not only the trihydrates of the metals of Group III, which are weak bases, but also the more strongly basic dihydrates,  $Mn(OH)_2$ ,  $Zn(OH)_2$ , etc., would be partly precipitated. The presence of the ammonium chloride so greatly reduces the ionisation of the ammonium hydrate that it is only capable of precipitating the very feeble trihydrates. It should be noted, however, that while the ammonium chloride facilitates complete solution of  $Co$ ,  $Ni$ ,  $Zn$  and  $Mn$  by the mechanism of ionisation, magnesium is held in solution by the formation of the double compound  $MgCl_2 \cdot 2NH_4Cl$ .

In analysis it is usually necessary to obtain the radicals in the ionic state before tests in the wet way become applicable. If we add ammonia to a solution containing ferrion, a characteristic precipitate is produced; no precipitate occurs on the addition of ammonia to a solution of potassium ferrocyanide because the iron is not present as ferrion, but as part of a complex radical; sodium chloride, but not sodium chlorate, gives a precipitate (of  $AgCl$ ) with silver nitrate, because chloranion is present only in the former solution. It therefore follows that the tests referred to are for iron and chlorine ions respectively, and not just for the elements themselves.

The property possessed by gases of diffusion through porous partitions, is shown also by the solutions of many substances. If a strong aqueous solution of cane sugar be separated by a semi-permeable membrane from water (or a weaker solution) the water diffuses through the membrane into the stronger solution. This process is termed osmosis; the increase in pressure developed being the

### Osmotic Pressure

of the strong solution. The term semi-permeable used in this connection implies a membrane which allows passage to the solvent, but which is impervious to the dissolved substance. In general, membranes of animal and vegetable origin are not strictly semi-permeable. In a plant cell the cellulose wall is the supporting mechanism which permits the passage of salts in solution; the cytoplasmic lining exercises a selective absorption of the mineral constituents of the solution and hence the system is not strictly semi-permeable. The osmotic pressure of a solution increases with temperature and concentration. Equal volumes of solutions containing the same number of solute molecules have the same osmotic pressure, and, in fact, the pressure developed is strictly a function of the molar fraction. When, however, the partition is not strictly semi-permeable, the pressure varies also with the nature of membrane. The first semi-permeable membranes were made by Traube in 1867; freshly-precipitated copper ferrocyanide was found to form the most satisfactory precipitation membrane, and, in 1877, Pfeffer vastly improved upon Traube's technique by precipitating the ferrocyanide into the cells of a porous

pot; this made possible the investigation of osmotic pressures of the order of twelve atmospheres. Another circumstance to be considered in connection with the development of osmotic pressure is the condition of the molecules of the dissolved substance; it is obvious that if association (polymerisation) of some of the molecules occurs, to form a compound molecule, there will be numerically less molecules in unit volume and hence the osmotic pressure is reduced; again, following dissociation (ionisation) the pressure will increase in direct ratio with the degree of ionisation, and in calculations of the pressure developed, allowance (by means of the dissociation factor) will have to be made.

It was postulated by Van't Hoff that the general equation for a perfect gas

$$p v = R T$$

would also obtain for dilute solutions, where  $v$  is the gram molecular volume. Van't Hoff rewrote the expression:

$$p = \frac{n K T}{v}$$

where  $n$  denotes the number of moles of solute,  $v$  the volume of the solution, and  $K$  is the constant. A number of formulæ alternative to the above simple equation have been suggested in attempts to derive an expression for the pressures of more concentrated solutions, after the style of van de Waal's modification of the gas equation. The most generally satisfactory expression appears to be

$$\left[ \frac{A}{v} - p + \frac{a}{v^2} \right] \left[ v - b \right] = K T.$$

In this equation the term  $a/v^2$  is inserted to correct for mutual attraction of the solute molecules; whilst  $A/v$  corrects for attraction between the solute and solvent molecules;  $v$  is the volume of the solvent which contains one mole of the solute. The constants for the equation are:  $A=45.3689$ ;  $a=3.5696$ ;  $b=0.05266$ . Sackur, however, has shown that the two processes of molecular attraction for which the corrections are applied, are antagonistic, and, for all practical purposes, mutually compensating. He showed that the simpler approximation formulæ had a wide range of applicability. It may be noted that the symbol  $K$  is used to represent the constant in all the above expressions relating to osmotic pressure. It is not unusual to find the  $R$  of the gas equation retained for this purpose, but in physical chemistry  $R$ , as the gas constant, is just as definitive as  $\pi$  in mathematics, and its use for other constants is better avoided.

The direct measurement of osmotic pressures is a matter of considerable experimental difficulty with highly specialised apparatus, and it must be borne in mind that the usual illustrations, in students' textbooks of apparatus for such measurement, if not entirely diagrammatic, represent merely a method for the approximate determination over a small range of mode-

rate pressures. Methods of indirect determination from other physical properties such as boiling points and freezing points are available, and present fewer difficulties than direct measurement, but in order to understand the underlying theory it is necessary to give some preliminary consideration to

### Vapour Pressure.

A. Wüllner in 1858, showed that for non-volatile solutes the pressure exerted by the escaping vapour from a solution was lower than in the case of the solvent alone, and varied proportionately with the strength of the solution. Vapour pressure is increased by the application of heat, and the boiling point of a substance is the temperature at which its vapour pressure (the internal pressure) becomes equal to the external pressure on the surface of the substance. It, therefore, follows that a solution needs to be raised to a higher temperature than the pure solvent before its boiling point is reached. Furthermore, for fairly dilute solutions, Raoult has shown that the rise in the boiling temperature is directly proportional to the concentration of the molecules of the dissolved substance and inversely proportional to the molecular weight of that substance. When the solvent is water a gram-molecule of cane-sugar in 100 grammes of water would raise the boiling point of the water to 105.2°; the elevation, 5.2, would be the same whatever the nature of the solute, provided that it be a single substance, that one mole, should be present in a specified quality of water, and that neither association nor dissociation occurs. For water 5.2 is termed the boiling constant, and it follows that determinations of the molecular weight of many substances may be made from their effect on the boiling point of water, the following being the equation used:—

$$M \cdot W = 5 \cdot 2 \frac{w}{t}$$

where  $w$  is the weight of the substance dissolved in 100 grammes of water, and  $t$  is the observed elevation of the boiling point. It follows that when the molecular weight of a substance is known, the value of  $t$  may be calculated. Since both the osmotic pressure and the boiling point of a solution are directly proportional to the molar fraction, they are directly proportional to each other; hence isosmotic solutions, that is solutions having the same osmotic pressure, will boil at the same temperature and have the same freezing point. The calculations for the deduction of absolute osmotic pressures in terms of atmospheres, from considerations of vapour pressure or boiling point, are too involved to be here discussed, but from the foregoing data it will be evident that the relative strengths of solutions in comparison with a solution of known concentration, may easily be calculated provided that the dissociation factor (which may, of course, be unity) is known in each case.

## British Pharmaceutical Conference

The following subjects require examination or further investigation:—

**Aconitine.**—The composition of commercial aconitine and the methods of standardising aconitine and preparations of aconite.

**Agar and Paraffin Emulsion.**—A process for the extemporaneous preparation of agar and paraffin emulsion.

**Alcohol in Tinctures.**—Suitable limits for the alcohol content of tinctures and other alcoholic preparations of the B.P.C.

**Anchusa Root.**—The nature of the colouring matters present in anchusa root and Syrian alkanet.

**Antiseptics.**—The difference in action, if any, between sparingly soluble antiseptics (such as the more complex phenols) in solution and suspension.

**Apiol.**—Liquid apiol of commerce with a view to setting up a standard for this article so as to reduce the variation which appears to be very considerable.

**Ash of Crude Drugs.**—The value as a standard of the

ratio of natural acid-insoluble ash to the total ash of crude drugs.

**Barbitone Derivatives.**—Qualitative tests for the distinction of barbitone derivatives.

**Belladonna and Hyoscyamus.**—A process for the preparation of dry extracts of belladonna and hyoscyamus without added leaf.

**Bismuth Salts.**—The detection and determination of silver in bismuth salts.

**Calcium Lactate.**—The variation in the solubility of calcium lactate.

**Calcium Phosphate.**—The composition of calcium phosphate and methods of producing a more uniform product for pharmaceutical purposes.

**Camphor.**—The methods available for the determination of synthetic camphor and camphor of abnormal rotation and an improved method, if possible, for the determination of camphor in galenicals.

**Cantharidin.**—The determination of cantharidin in the beetles and in the galenicals.



**Chlorophyll.**—The composition of commercial chlorophyll. **Citrates and Lactates.**—Methods for the determination of lactic acid in lactates and of citric acid in citrates.

**Colouring Matters.**—(a) The colours suitable for pharmaceutical products and their stability on keeping. (b) The processes for determining the tinctorial value of cochineal. (c) Comparison of the tinctorial values of litmus, cudbear and orchil.

**Concentrated Infusions.**—The means and substances used in the preservation of concentrated infusions.

**Creosote.**—The composition of medicinal creosote.

**Datura Metel.**—The nature and composition of the alkaloids of *Datura Metel*.

**Digitalis.**—A comparison of the results of digitalis assay by physiological and colorimetric methods with clinical effects.

**Digitalis and *S. asophanthus*.**—The stability of aqueous solutions containing the glucosides of digitalis and *strophanthus*.

**Drugs in Ultra-violet Light.**—The behaviour of drugs and galenicals when exposed to ultra-violet light and the value of such observations for the identification of drugs and their determination in preparations.

**Emulsifying Agents.**—Comparison of the emulsifying powers of different emulsifying agents under different conditions of preparation.

**Extracts.**—(a) The effect of varying pH on fungoid growth in aqueous extracts. (b) The effects produced by various methods (e.g. evaporation *in vacuo*, in open air, etc.) of concentrating percolates and other solutions of extractive matter, more especially as it affects the composition of their constituents. (c) Figures for the relation between the yields of unstandardised extracts and the weights of the drugs from which they are made.

**Extraction of Crude Drugs.**—(a) The extraction of crude drugs for the purpose of collecting data as to the relative proportions of active principle and inert material in progressive fractions with a view to determining the economic limits for extraction. (b) Data of the amount of extractive yielded by drugs to various menstrua, e.g., alcohol, water, ether, etc.

**Extract of Liquorice.**—The determination of the characters of genuine liquid extract of liquorice.

**Extract of Opium.**—The processes of manufacture of dry extract of opium so as to reduce the loss of morphine by destruction.

**Gland Products.**—Methods for the identification of animal substances and tissues in desiccated powder form and the possibility of applying pharmacognostic technique for the detection of adulteration, etc.

**Glycerin.**—The possibilities for increasing the use of glycerin in the preparation of galenicals.

**Injections.**—Improved formulas for active injections of ergot and digitalis.

**Iodised Oil.**—Suitable processes for the preparation of products containing a high proportion of iodine in oil.

**Ipomœa Root.**—The botanical sources of the scammony root now being imported from Mexico.

**Limit Test for Sulphates.**—The significance of the limit test for sulphate as applied to various chemicals.

**Lobelia.**—The determination of the total alkaloids of lobelia and their galenical preparations.

**Local Anæsthetics.**—Qualitative tests for the distinction of local anæsthetics and a differentiation of their relative values in the different types of anæsthesia, spinal, dental, regional, etc.

**Magnesium Oxide.**—The effect of magnesium oxide in increasing the effect of analgesics and antipyretics such as aspirin, acetanilide, etc.

**Magnesium Oxides and Carbonates.**—The composition of and impurities in commercial magnesium oxides and carbonates.

**Mercuric Oxide.**—A method for the determination of moisture in mercuric oxide.

**Mercury with Chalk.**—The methods of preparation and of storage of grey power which will prevent the formation of mercuric compounds.

**Mercury Determinations.**—Methods for the determination of mercury in ung. hydrarg. nit. and other mercury ointments, and in certain mercury salts.

**Mezereum Bark.**—The morphology and histology of various mezereum barks.

**Micro-sublimation.**—The value of micro-sublimation as a means of identifying crude drugs.

**Mucilaginous Seeds.**—The histological characters of certain medicinal mucilaginous seeds of the orders Cruciferae, Labiatae and Plantaginaceae.

**Nitroglycerin.**—A rapid and economical method for the determination of trinitroglycerin in the tablets.

**Olive Oil.**—The determination and detection of tea-seed oil in olive oil.

**Peptone.**—The composition of "peptones" suitable for hypodermic injection and other purposes.

**Pill Coatings.**—Formulæ for coatings for pills and tablets which will resist wholly the action of gastric secretions and dissolve in the contents of the small intestine, and at the same time have a sufficient degree of expansibility to guard against bursting under normal changes of temperature.

**Poppy Capsules.**—The re-examination and proximate analysis of poppy capsules.

**Potassium Guaiacolsulphonate.**—The quantitative determination of potassium guaiacolsulphonate.

**Preservatives.**—The use of benzoic acid, benzoates and hydroxy-benzoates as suitable preservatives for pharmaceutical preparations.

**Quinine Salts.**—The influence of exposure to light on the physiological activity of quinine salts, apomorphine and other substances which become coloured on exposure.

**Readily Carbonisable Substances.**—The sulphuric acid test for "readily carbonisable substances" in organic chemicals with a view to confirming its value as a practical test for purity.

**Rhubarb.**—Tests for distinguishing East Indian and rhapontic rhubarb and a method for the determination of rhapontic rhubarb in powdered rhubarb.

**Senega Preparations.**—Means of preventing the formation of deposits in preparations of senega and tests to show that they are of full strength and free from foreign saponin.

**Silver Compounds.**—The composition of and an investigation of the relative therapeutic actions of colloidal silver compounds and silver salts.

**Solubilities.**—Figures for the solubilities of a large number of pharmaceutical inorganic and organic chemicals in different solvents.

**Specific Gravities.**—Figures for the specific gravity at 25°/25° of numerous pharmaceutical substances and preparations.

**Sterilisation.**—(a) The stability of solutions of alkaloidal salts and synthetic substances such as physostigmine, procaine, etc. (b) The effect of heat-sterilisation of aqueous solutions of cocaine hydrochloride.

**Syrup of Iron Phosphate with Quinine and Strychnine.**—An examination of Easton's syrup with a view to the prevention of colour.

**Syrup of Ferrous Phosphate (Compound).**—A rapid method for the determination of phosphates in iron phosphate syrups.

**Tannic Acid.**—The nature of the change which is said to occur on keeping in solutions of tannic acid used in the treatment of burns and the means of preventing any change which renders them unsuitable.

**Valerian.**—The active principle of valerian root and an investigation of the difference in constituents of the British root and that from the Continent.

**Volatile Oils.**—The process for the determination of volatile oils in drugs.

## The Rural Patient

ALL insured persons are entitled to medical benefit, but only in exceptional cases is the dispensing of medicines for insured persons to be done by doctors.

(1) *Difficulty of Access.*—Where the Insurance Committee are satisfied that the patient will have serious difficulty in obtaining supplies from a chemist, because of distance or inadequate means of communication, they may require the person's own doctor to supply the necessary medicine.

(2) *Distance.*—If the patient's residence is over a mile from the nearest chemist the Committee are to decide whether the doctor or the chemist shall supply the medicine. (The patient has a final choice, however.)

All the insured persons in a rural area may not, therefore, be treated alike. It may be that, as a matter of policy, Insurance Committees who are responsible for providing medical benefit in areas which include sparsely populated districts endeavour to make a doctor's dispensing arrangements apply to all the patients for whose treatment he is responsible; but there is nothing to prevent any chemist who has a village business from securing all the insurance dispensing to which he is strictly entitled, even if such arrangements necessitate different methods of supply being provided by the Committee for persons who are on the same list.—O. (20/1).



# Insurance Act Dispensing

Record of matters concerning Chemists' interests in the National Health Insurance Acts.

## Local Reports

### ENGLAND AND WALES

**Leeds.**—At a meeting of the Leeds Insurance Committee, on November 22, discussion took place as to who is to bear the cost of issuing the National Formulary in Leeds. The cost of the issue of the National Formulary to doctors and chemists in Leeds would be about £30, and the members of the two professions—through their representatives on the Insurance Committee—do not feel prepared to bear this cost, particularly as they were satisfied with the local formulary. The Ministry has authorised district insurance committees to issue the new Formulary locally, at their own expense, but the Leeds Committee, when adopting the National Formulary, declined to saddle itself with the cost. The opposition, in the main, is from the approved societies. It is argued that if the Insurance Committee has to meet the expense, it will deprive the Committee's funds of so much which might otherwise be expended on health services. Dr. J. J. Anning moved that the Committee's previous resolution adopting the National Formulary, but refusing to bear the cost of issue, be rescinded, and that in its place the Committee should authorise the supply and distribution of the Formulary at the Committee's expense. The proposition was opposed by Mr. A. Robinson, on the ground that this was no time for doctors and chemists to propose further charges on the insurance funds. On a vote, the proposal to rescind the original resolution was not carried. The Leeds Committee has adopted the National Formulary.

**Lincolnshire (Holland)**—At the recent quarterly meeting of the Holland (Lincolnshire) Insurance Committee it was stated that the Pharmaceutical Service Subcommittee had considered a complaint regarding the supply of a flannel bandage by a chemist. The chemist stated that this was the first and only occasion on which he had been asked for a flannel bandage. The subcommittee recommended that no action be taken, and the Insurance Committee concurred.

**West Ham.**—At a meeting of the West Ham Borough Insurance Committee, recently, the Pharmaceutical Service Subcommittee, referring to a report upon a sample of cotton wool which had been found not to conform with the requirements of the B.P.C., stated that a representative of the chemist concerned had explained that the sample was one taken from a stock of sealed packets. The Subcommittee had recommended acceptance of the chemist's explanation, subject to a warning that supplies must conform to requirements.

### SCOTLAND

#### General Council of Panel Chemists

A MEETING of the General Council of Panel Chemists (Scotland) was held on November 16, Mr. John B. McVittae in the chair. The chairman referred to the death of two members of the General Council, Mr. John Muir (Edinburgh), and Mr. J. D. Petrie (Blairgowrie). It was reported that in agreement with the Department of Health for Scotland it had been arranged that should financial reasons require, there might be a revision of the drug tariff every two months. No occasion to use this proviso had arisen. It was also reported that the Department had intimated to each insurance committee that in applying the prescription testing scheme they should deal only with panel chemists within their own area.

The financial statement for the year, duly audited and showing a favourable balance, was submitted and approved. Reference was made to the 6.3 per cent. cut which had been agreed to. The information available was to the effect that the financial position of the

country still remained such that the removal of this deduction could not well be effected. Mention was made of proposals for the relaxation of taxation, and it was agreed that before any such relaxation took place the deduction of 6.3 per cent. ought to be removed.

It was reported that in some instances the analyst acting for the insurance committee had been proved to be wrong, and an independent analysis had exonerated the chemist from any complaint. It was felt a hardship that the chemists' professional work should have been questioned, and, still more, that apparently he had no means of recovering the costs of vindicating his accuracy. It appeared to be an instance in which he should cover his risks by suitable insurance.

It was reported that in accordance with the unanimous decision of the General Council a copy of the Renfrew county scheme, and also a copy of the memorandum sent to the Department of Health and to all local authorities in Scotland by the Executive of the North British Branch in 1929, had been forwarded to each pharmaceutical committee and, in order to make the matter as widely known as possible, copies had also been sent to the secretaries of the five Scottish branches of the Pharmaceutical Society and to each divisional secretary of the Pharmaceutical Society in Scotland. A copy of the Ayr county scheme had been submitted by Mr. Meldrum. The Renfrew county scheme had been put in operation through the Central Checking Bureau. Many practical difficulties in detail had been dealt with in consultation with the medical officer of health for the county and Mr. McConnell (secretary of the County Pharmaceutical Committee). Reference was made to the report on the work of the Central Checking Bureau, from which it was made evident that the setting up of local schemes of public pharmaceutical service by local authorities was in operation and gradually being developed along the lines of the National Health Insurance scheme. Several communications had been received from local pharmaceutical committees indicating that the working out of a national scheme would be a very gradual process. The Pharmaceutical Standing Committee was in close touch with the Department of Health for Scotland in regard to the whole matter, and it was strongly recommended that local pharmaceutical committees should continue the endeavour to establish a uniform national scheme, as indicated in the communications which had been addressed to them as well as to all panel chemists through the Pharmaceutical Standing Committee (Scotland). A deputation from the Scottish Pharmaceutical Federation was in attendance for the purpose of conferring as to the position of public pharmaceutical service and how best to secure united action. After discussion it was unanimously agreed to ask the Scottish Pharmaceutical Federation to appoint three representatives on a small committee with three representatives from the Pharmaceutical Standing Committee (Scotland) to go into the whole matter of public pharmaceutical service and report to a subsequent meeting. The deputation accepted this suggestion. After discussion the report of the Standing Committee was generally approved.

A letter was submitted from the Department of Health for Scotland, stating that they had no proposals to make for any change in the terms of service for 1933.

**Aberdeen.**—The Aberdeen Burgh Insurance Committee recently inquired into the circumstances of a case in which a medical practitioner had issued several prescriptions for 100 pancreas tablets, but on one occasion had inadvertently added "0" to his figure, making the total 1,000 tablets, the chemist dispensing the usual 100 without noticing the addition. The Central Pricing Bureau had priced the form for 1,000 tablets, and payment was made to the chemist accordingly. The overpayment was later discovered and a letter was sent by the chemist to the Insurance Committee expressing regret for the oversight and giving the assurance that no fraud was intended. The Committee, after consideration, agreed to accept the chemist's assurance. It was also decided to draw the attention of the doctor and the chemist concerned to the dangerous consequences that might arise from repetition of such avoidable mistakes.



# Trade Report

Where possible scales of prices of chemicals are given for bulk down to small quantities. Prices recorded for crude drugs, essential and fixed oils and coal tar products are for fair sized wholesale quantities. Qualities of chemicals, drugs, essential and fixed oils, etc., vary, and selected brands or grades would be at higher values

## 28 Essex Street, W.C.2, December 15

RATHER more business is reported this week in some directions, and the general tone, excepting exchange rate fluctuations, is quite steady. Although there is no material improvement in the values of some of the main basic market commodities a number of the lesser important items are gradually recovering to better levels. The partial recovery in sterling this week, if sustained, is likely to cancel the recent general increase in spot values of chemical and other products which have to be imported. In the pharmaceutical chemicals markets makers' prices are all maintained, and this week ferri quinine citrate is dearer. Strychnine salts have been reduced. Phenacetin is unsteady and the future position tends to be uncertain. In crude drugs business has been fair on small lines. Balsams are very steady. Japanese camphor is dull but well held. Cascara sagrada is distinctly firm. There has been more business in honey, and this market is firm. Ipecacuanha is disappointing in demand, but stocks are small. A trifle more interest in Japanese menthol and a sharp movement here would not be surprising. Business in essential oils has been fairly satisfactory, and there are a number of bright features. Brazilian bois de rose is dearer, firm and short. Bourbon geranium is dearer for shipment. French lavender is inclined to be steadier. West Indian lime shows a further substantial advance, and the shortage of supplies is acute. There has been a good deal more interest in Japanese peppermint, particularly for spot goods. Petitgrain has moved to higher rates, and may go much dearer. Bergamot is about the only weak item. The wide variation in shipment prices for Sicilian hand-pressed lemon continues, and the same remark applies in a lesser degree to orange from that source.

## Exchange Rates on London

THE following is a list of the chief Continental and other exchange rates at the opening on Thursday morning:—

Centre	Quoted	Par	December 15	Value of the £
Amsterdam ..	Fl. to £	12.107	8.17	13/6
Berlin ..	Mks. to £	20.43	13.79½	13/6
Brussels ..	Belga to £	35	23½	13/6½
Copenhagen ..	Kr. to £	18.159	19.30	21/3
Lisbon ..	Ese. to £	110	109	19/9½
Madrid ..	Ptas. to £	25.22½	40½	31/8
Milan ..	Lire to £	92.46	64½	13/8½
Montreal ..	Dol. to £	4.86½	3.79	15/7
New York ..	Dol. to £	4.86½	3.22	13/5½
Oslo ..	Kr. to £	18.159	19.40	21/4½
Paris ..	Fr. to £	124.21	84½	13/6½
Prague ..	Kr. to £	164.25	110½	14/3
Stockholm ..	Kr. to £	18.159	18.32½	20/2
Warsaw ..	Zloty to £	43.38	29½	13/8½
Zurich ..	Fr. to £	25.2215	17.07	13/6½

Bank rate 2 per cent.

## Pharmaceutical Chemicals, etc.

A MODERATE volume of business is being done in this market. Strychnine salts are quoted cheaper by makers. Phenacetin is unsteady, with some cheap offers. Ferri quinine citrate has been advanced.

ACETANILID.—Business is dull; quoted prices unchanged; B.P. crystals and powder, 1s. 5½d. to 1s. 8d. per lb. as to quantity.

AMIDOL.—Market is slow, with quoted prices steady: 56 lb., 7s. 3d.; 23 lb., 7s. 6d.; 14 lb., 7s. 11d. per lb., in 7-lb. tins.

AMIDOPYRIN.—Dealers' prices are maintained at high rates on account of sterling depreciation: crystals, five cwt., 19s. 1d.; two cwt., 19s. 4d.; less than two cwt., 21s. per lb., with powder 2½d. per lb. extra.

AMMONIUM BENZOATE is quoted at about 3s. 4d. to 3s. 6d. per lb. as to quantity. Market is dull.

ASPRIN.—This market continues firm as quoted by makers and dealers and business is satisfactory. Home trade: ten

cwt., 2s. 7d.; five cwt., 2s. 8d.; one cwt., 2s. 8½d.; 23 lb., 2s. 9d.; 14 lb., 2s. 10d.; 7 lb., 3s. per lb. Export to Colonies and British Possessions: ten cwt., 2s. 7d.; five cwt., 2s. 8d.; one cwt., 2s. 8½d. per lb. f.o.b.; less than one cwt., 2s. 9d. per lb. ex works.

BARBITONE.—Dealers' prices for spot material are maintained; business quiet: spot, one cwt., 11s. 2d.; 56 lb., 11s. 3d.; 14 lb., 11s. 8d.; small parcels, up to 12s. 6d. per lb.

BENZOIC ACID (B.P.).—The market is steady and a limited business is being done: quantities ex works, 1s. 9½d.; spot parcels, 1s. 10d. to 2s. 1d. per lb., ex store, as to quantity.

BENZONAPHTHOL is unchanged, with spot quoted from 3s. 6d. to 3s. 9d. per lb. as to quantity.

BISMUTH SALTS.—No further change in makers' prices for these salts.

BROMIDES.—A moderate volume of business is being done, with makers' and dealers' prices keeping steady: ammonium, not less than five cwt., 1s. 9d.; one cwt., 1s. 10d.; smaller quantities, 2s. 1d. per lb.; potassium, B.P. crystals and granular, not less than five cwt., 1s. 6d.; one cwt., 1s. 7d.; smaller quantities, 1s. 10d. per lb.; sodium, B.P., not less than five cwt., 1s. 8d.; one cwt., 1s. 9d.; smaller quantities, 2s. per lb. net without engagement. Special prices for larger quantities.

CAFFEINE.—Offers on spot are competitive, with only small business passing: pure alkaloid, 5s. 6d. to 6s. per lb.; citrate, 4s. 3d. to 4s. 9d. per lb. as to quantity.

CALCIUM LACTATE.—Rather keen prices are being quoted for a restricted business: spot, one cwt., 1s. 1½d.; 56 lb., 1s. 2½d.; 23 lb., 1s. 3½d.; smaller parcels, up to 1s. 6d. per lb.

CHLORAL HYDRATE.—Home makers' prices are keeping quite steady: duty-paid crystals, in 14-lb. free containers, five cwt., 3s. 4d.; one cwt., 3s. 5d.; 56 lb., 3s. 6d.; 23 lb., 3s. 7d.; 14 lb., 3s. 8d. per lb.; 23-lb. jars, one penny per lb. extra.

CHLOROFORM.—Makers' prices for home trade are as follows: in drums, 2s. 3d. to 2s. 6d.; winchesters, 2s. 3½d. to 2s. 6½d.; 2-lb. bottles, 2s. 4½d. to 2s. 7½d.; 1-lb. bottles, 2s. 5½d. to 2s. 8½d.; 8-oz. bottles, 2s. 6½d. to 2s. 9½d.; 4-oz. bottles, 2s. 8½d. to 2s. 11½d. per lb. for 10 cwt. down to 56-lb. lots, carriage paid on minimum cwt. lots.

CITRIC ACID (B.P.) CRYSTALS.—British makers' quoted price for home consumption continues at 10d. per lb., less 5 per cent. discount, nominal and without engagement. Dealers' prices are very competitive.

COCAINE.—Makers' home trade prices are very steady as follows: hydrochloride, 25 oz., 20s. 11d.; 16 oz., 21s. 7d.; and less, 22s. 3d. per oz.; pure, 25 oz., 22s. 1d.; 16 oz., 23s. 8d.; less than 16 oz., 24s. 4d. per oz.; 1-oz. tins, 2½d. per oz. extra. Export prices vary as to destination.

CREAM OF TARTAR.—Market is keeping steady, with makers' quoted price for 99 to 100 per cent. material at 87s. per cwt., less 2½ per cent. discount, nominal and without engagement. Dealers are quoting at about the same price.

CREOSOTE (B.P.).—The market is steadier; business slow: quoted from 2s. 0½d. to 2s. 3d. per lb. as to quantity.

CREOSOTE CARBONATE.—Dealers are finding business very slow: spot, 8s. 6d. to 8s. 9d. per lb. as to quantity.

FERRI QUININE CITRATE.—Makers' prices have been advanced one penny per oz., as follows:—

	Less than 100 oz.	100 oz.	Less than 100 oz.	100 oz.
	Per oz.	Per oz.	Per oz.	Per oz.
100-oz. tins ..	10½d.	—	8- & 4-oz. bottles 11½d.	1/-
25-oz. „ „	11d.	11½d.	1-oz. „ „	1/6
16-oz. bottles	11½d.	11½d.	½-oz. „ „	1/3½
				1/4½

Prices for larger quantities on application.

GUAIACOL CARBONATE.—Spot values continue at high levels on current exchange rates: spot, 8s. 9d. to 9s. 2d. per lb. as to quantity.

HEXAMINE.—A fair inquiry on the market. Competition for bulk quantities is keen: free-running crystals, spot, ten

cwt., 2s. 2½d.; two cwt., 2s. 4d.; one cwt., 2s. 4½d.; smaller quantities, up to 2s. 6d. per lb.

**HYDROQUINONE.**—There is no change so far in this market, but the tone is firmer in view of the imposition of key industry duty on imports on January 1. Spot, ten cwt., 5s. 1½d.; five cwt., 5s. 3½d.; two cwt., 5s. 3d.; one cwt., 5s. 3½d.; 56 lb., 5s. 4½d.; 28 lb., 5s. 6½d.; 14 lb., 5s. 8½d.; 7 lb., 5s. 10½d. per lb., carriage paid.

**LACTIC ACID (B.P.).**—Business has been slow and the market is rather competitive: quantities in carboys, 1s. 5½d. to 1s. 6d.; in demijohns, about 1s. 7d.; in winchesters, 1s. 8½d. to 1s. 9d. per lb. as to quantity.

**MERCURIALS.**—Makers' prices are unchanged, with a tendency to advance.

**METHYL SALICYLATE (B.P.).**—This market is fully steady and a good volume of business is being done: one ton and over, 1s. 4½d.; ten cwt., 1s. 5d.; five cwt., 1s. 5½d.; one cwt., 1s. 6d.; less than one cwt., 1s. 6½d.; smaller quantities in bottles, up to 2s. per lb.

**METHYL SULPHONAL.**—Dealers' spot values are maintained at high rates on current exchange rates; business is slow: two cwt., 20s. 6d.; one cwt., 21s. 6d.; 56 lb., 22s.; small parcels, 23s. per lb.

**METOL.**—Business is slow, quoted prices unchanged: spot, 56 lb., 9s. 3d.; 28 lb., 9s. 6d.; 14 lb., 9s. 9d.; 7 lb., 10s. 9d. per lb., in tins, bottles extra. Wholesale distributors' prices for smaller quantities at higher prices.

**MILK SUGAR.**—Dealers' prices for Continental material are well up to recent advances; one ton, 53s.; ten cwt., 54s. 6d.; two cwt., 56s. 6d. per cwt., in two-cwt. cases.

**PARAFORMALDEHYDE.**—A moderate business is being done, with the market rather keen: 100 per cent. powder, quantities in kegs, 1s. 2d.; smaller parcels, up to 1s. 7d. per lb.

**PARALDEHYDE.**—Quoted prices are about steady; business restricted: quantities in demijohns, 1s. 0½d. to 1s. 1d.; winchesters, 1s. 4d. to 1s. 6d. per lb.; higher prices for small quantities.

**PHENACETIN.**—This market is irregular and values are nominal.

**PHENAZONE.**—Spot values are holding on current exchange rates; business is of small importance: spot, crystals, ten cwt., 10s.; five cwt., 10s. 4d.; two cwt., 10s. 6d.; and less than two cwt., up to 11s. 3d. per lb., with powder 2½d. per lb. extra.

**PHENOLPHTHALEIN.**—Makers' agreed prices are very steady; business fair: five cwt., 3s. 10d.; two cwt., 3s. 11d.; one cwt., 4s.; 28 lb., 4s. 3d.; 14 lb., 4s. 6d.; 7 lb., 4s. 9d.; smaller parcels, up to 5s. per lb.

**PHENYL ETHYL BARBITURIC.**—Quoted prices are unchanged; business dull: one cwt., 38s. 6d.; 56 lb., 39s. 6d.; 28 lb., 41s.; smaller lots, 42s. 6d. per lb., in 2-lb. bottles, carriage paid; small quantities in different packing at higher prices.

**POTASSIUM PERMANGANATE (B.P.).**—Dealers continue to do a fair business in small quantities: quantities, in two-cwt. drums, 8½d. to 9½d.; druggists' parcels, 9½d. to 10d. per lb. as to quantity.

**POTASSIUM SULPHOGUAIACOLATE.**—Dealers' spot quotations are maintained; business very quiet: two cwt., 4s. 10½d. to 5s. 3d. per lb. as to quantity.

**PYROGALLIC ACID.**—Business is limited; market steady: 56 lb., 7s.; 28 lb., 7s. 3d.; 14 lb., 7s. 9d.; 7 lb., 8s. 6d. per lb. in 7-lb. tins.

**QUININE SULPHATE.**—No further change in the controlled price at 2s. 7d. per oz., carriage paid on bulk quantities: salicylate, 3s. 4d.; hydrochlor., 3s. 3d.; hydrobromide, 3s. 3d.; bisulphate, 2s. 7d.; bihydrochloride, 3s. 6d. per oz.

**RESORCIN.**—Quoted prices are unchanged: crystals, one cwt., 4s. 11d.; 56 lb., 5s.; 28 lb., 5s. 1d.; 14 lb., 5s. 3d.; 7 lb., 5s. 6d.; less than 7 lb., 6s. per lb., with powder 3d. per lb. extra. Imports of this product landed on and from January 1, 1933, will be liable to duty under Part I of the Safeguarding of Industries Act, 1921.

**ROCHELLE SALTS.**—Makers' scale of prices for sodium and potassium tartrates and Seidlitz powder, for home trade, are steady as follows: powder, five cwt. and over, 77s. 6d.; less than five cwt., 80s.; less than one cwt., 82s. 6d. per cwt., carriage paid, with crystals 2s. 6d. per cwt. extra. Pulv. seidlitz, five cwt. or over, 62s. 6d.; less than five cwt., 64s. 3d.; less than one cwt., 66s. 3d.; double seidlitz, five cwt. or over, 69s.; less than five cwt., 71s. 3d.; less than one cwt., 73s. 3d. per cwt., carriage paid. Quoted without engagement.

**SALICYLIC ACID (B.P.).**—Home makers' prices are fully maintained: one ton, 1s. 7d.; ten cwt., 1s. 7½d.; five cwt., 1s. 8d.; one cwt., 1s. 8½d.; 28 lb., 1s. 9d.; 14 lb., 1s. 10d.; 7 lb., 2s.; 1 lb., 2s. 2d. per lb.

**SALOL.**—This market has been dull; quotations unchanged: spot, crystals, two cwt., 5s. 9d.; one cwt., 5s. 11d.; 56 lb., 6s.; smaller parcels, 6s. 1½d. per lb.; powder, 2d. per lb. extra.

**SANTONIN.**—The controlled prices are unchanged and range from 125 American dollars per kilogram for not less than 50 kilogram up to 162 dollars for one kilogram, carriage paid, package free, net cash thirty days. Higher prices for smaller quantities, packages extra.

**SODIUM BENZOATE (B.P.).**—The market is keen for a rather limited business: bulk quantities, 1s. 6½d.; cwt. lots, 1s. 7½d.; smaller parcels, up to 2s. per lb. Limited quantities of material conforming to the new B.P. available at 1s. 8d. to 1s. 9d. per lb. as to quantity.

**SODIUM DIETHYLBARBITURATE.**—Occasional small business, with the market fully steady: spot, one cwt., 12s. 9d.; 56 lb., 13s.; 28 lb., 13s. 3d.; 14 lb., 13s. 6d.; 7 lb., 13s. 9d.; smaller parcels, up to 14s. per lb.

**SODIUM SALICYLATE (B.P.).**—Makers' and dealers' prices are very steady and business is moving on a good scale. Home trade: powder, two tons, 2s.; one ton, 2s. 0½d.; ten cwt., 2s. 1d.; five cwt., 2s. 2d.; one cwt., 2s. 3d.; 28 lb., 2s. 4d.; 14 lb., 2s. 6d.; 7 lb., 2s. 7d.; 1 lb., 2s. 8d. per lb., with crystals 1d. per lb. extra.

**STRYCHNINE SALTS.**—Makers notify a reduction in their prices, as follows:—

	Under 16 ozs.	16 ozs.	35 ozs.
	Per oz.	Per oz.	Per oz.
Alkaloid cryst. . . . .	2/10	2/8	2/7
" precip. . . . .	2/8½	2/6½	2/6
Areniate . . . . .	2/9	2/7½	2/6½
Bisulphate . . . . .	2/3½	2/1½	2/1
Hydrochloride . . . . .	2/6½	2/5	2/4
Hypophosphite . . . . .	4/11½	4/9½	4/9
Nitrate cryst. . . . .	2/5	2/3	2/2½
Phosphate . . . . .	3/3	3/1	3/0½
Sulphate cryst. . . . .	2/6	2/4	2/3½
" powder . . . . .	2/4½	2/2½	2/2

25-oz. tins free. Lower prices for contracts, with rise and fall clause.

**SULPHONAL.**—Dealers' spot values are keeping at high levels on current exchange rates: crystals, two cwt., 16s. 9d.; one cwt., 17s. 3d.; 56 lb., 17s. 9d.; smaller parcels, up to 19s. per lb., with powder 2d. per lb. extra.

**TARTARIC ACID (B.P. CRYSTALS).**—Makers' quoted price for home consumption is unchanged at 10½d. per lb., less 5 per cent. discount, nominal and without engagement. Dealers are quoting at about the same price.

**THEOBROMINE.**—The spot market is quoted cheaper; business slow: pure alkaloid, 5s. to 5s. 4d.; sodium salicylate, 4s. 6d. to 4s. 10d. per lb. as to quantity.

**THYMOL.**—Quoted cheaper in some quarters; business is slow: synthetic, fine white, one cwt., 5s. 6d.; 56 lb., 5s. 7½d.; 28 lb., 5s. 9d.; 14 lb., 6s. per lb.; ex ajowan seed, one cwt., 7s. 3d.; 56 lb., 7s. 4½d.; 28 lb., 7s. 6d.; 14 lb., 7s. 9d. per lb.

**VANILLIN.**—A fair business is being done, and as quoted the market is about steady: ex guaiacol, one ton, 14s. 3d.; ten cwt., 14s. 6d.; five cwt., 14s. 9d.; three cwt., 15s.; one cwt., 15s. 3d.; 56 lb., 15s. 6d.; 28 lb., 15s. 9d.; 14 lb., 16s.; less, 16s. 3d. per lb.; ex clove oil, 16s. to 18s. per lb. as to quantity, from one ton to less than 14 lb.

### Crude Drugs, etc.

**AGAR-AGAR.**—This market is still badly neglected. Spot, Kobe No. 1, 2s. 7d.; No. 2, 2s. 4½d.; Yokohama No. 1, 2s. 4½d. per lb. Shipment Kobe No. 1, 2s.; No. 2, 1s. 9½d.; Yokohama No. 1, 1s. 9½d. per lb. c.i.f.

**ANTIMONY.**—Quoted prices continue steady. Chinese oxide, spot, £19 10s.; shipment, £18 10s. c.i.f. Chinese oxide, spot, £27; shipment, £23 c.i.f.

**BALSAMS.**—A fair business is recorded and prices are very steady. *Tolu*, 3s. 5d. to 3s. 6d.; *Canada*, 3s. 4d. per lb.

**BELLADONNA.**—Good test root is offering on spot at about 57s. 6d. per cwt.

**BUCHU.**—A steady business in limited quantities continues to be done and prices are fully maintained. Spot, good green rounds, 1s. 3d. to 1s. 4d.; fair quality, 1s. to 1s. 1d., for which the demand is good. Ovals, 8½d. to 9½d. per lb. as to quality.

**BURDOCK ROOT.**—Dealers are quoting spot at about 45s. per cwt.

**CAMPHOR.**—Inquiry has again been slow, but the spot and shipment markets are keeping quite steady. Spot, slabs,



2s. 3d.; flowers, 2s. 3d.; tablets, 2s. 9d. per lb. Shipment, slabs, 1s. 11½d.; flowers, 2s.; tablets, 2s. 5½d. per lb. c.i.f. English refined is quoted unchanged: flowers, one cwt., 3s. 1d.; 28 lb., 3s. 2d.; small lots, 3s. 3d. per lb. Transparent tablets, 4 oz., 8 oz. and 16 oz. 3s. 4d.; 1 oz. and 2 oz., 3s. 5d.; ½ oz., ½ oz. and ¼ oz., 3s. 6d. per lb.; special prices for contracts for quantities.

CASCARA SAGRADA.—The tone continues firm at full rates. Spot, 1932 peel, 60s.; 1931 peel, 67s. 6d.; 1924 peel, 80s. per cwt. Shipment, 1932 peel, 52s. 6d. per cwt. c.i.f., in minimum car-load lots.

CELERY SEEDS.—Limited supplies are available at 2s. per lb.

CHAMOMILES.—The market is quoted dearer at 142s. 6d. to 165s. per cwt. as to colour.

CINCHONA BARK CHIPS.—Spot supplies are being offered at about 9d. per lb.

CLOVES.—Market is quoted easier and business has been dull. Zanzibar, spot, 7d.; shipment, January-March, 6½d. per lb. c.i.f. Madagascar, spot, 7d. per lb.

The landings of Zanzibar in London during the week ended December 3 were *nil* and the deliveries 491, leaving a stock of 958, against 724 in 1931. From January 1 to date landings of Zanzibar have been 5,416, against 3,630 in 1931, and the deliveries 6,441, against 3,903 in 1931. Landings of Madagascar for the week ended December 3 were *nil* and the deliveries 29, leaving a stock of 1,197, against 655 in 1931. Landings of Madagascar this year to date have been 814, against 2,290 in 1931, and the deliveries 595, against 2,466 in 1931.

COCOA BUTTER.—Prime English is steady at 9½d. to 10½d. per lb., as to quantity.

COCONUT (DESICCATED).—Market has been quieter and values are not so firm. Spot, fine, 26s. 3d.; medium, 25s. 3d. per cwt. Shipment, halves, December-January, 24s. 3d. per cwt. c.i.f.

COD-LIVER OIL.—The shipment market is quoted rather easier, and there is now very little business being done with buyers well stocked up. Exports from Norway to date total 105,000 barrels, being considerably in excess of last season's production. Finest Lofoten steam-refined non-freezing medicinal oil, 94s. to 95s. per barrel, with some brands at cheaper prices. Spot, about 110s. per barrel, ex store, duty paid.

COLCHICUM ROOT.—New crop supplies are now available at about 65s. per cwt. Seeds are quoted at 2s. 10d. per lb.

ERGOT.—Business seems to have been of no importance. Russian, 1s. 2d.; Portuguese, 1s. 6d.; Spanish, 1s. 8d. per lb., and less for bulk quantities.

GELATIN.—Market is steady and business is fair. Spot, gold leaf, 2s. 2d.; silver leaf, 2s.; bronze leaf, 1s. 9d.; thin leaf, 1s. 8d. per lb., in cwt. lots.

GENTIAN.—Dealers' prices are dearer and steady in the region of 55s. per cwt., spot.

GINGER.—Business is moderate; market steady. West African, spot, 21s. 6d.; for arrival, 19s. per cwt. c.i.f.

GUM ACACIA.—A very fair business has been done on spot at former rates. The shipment market is about steady but is rather neglected.

HONEY.—More business has been done this week. The market is firm with supplies of all kinds running short. All Chilean which was offering at about 40s. has been cleared. Jamaican, fair to good pale, 52s.; manufacturing dark liquid, 32s. to 33s.; Californian white clover, 55s. per cwt.

HYDRASTIS.—The demand has been slow. Spot is quoted at about 4s. 6d. per lb., and shipment at 3s. 10d. per lb. c.i.f.

IPECACUANHA.—This market continues to disappoint. The quoted figure for Matto Grosso of 5s. 3d. per lb. might be shaded for fair quantities.

LIQUORICE ROOT.—Cut decorticated Sicilian is quoted at 62s. 6d., and whole decorticated at 47s. 6d. per cwt., spot.

LYCOPODIUM.—Dealers are quoting spot at about 3s. 9d. per kilo.

MENTHOL.—Business has not amounted to much, but values are well maintained, and the market has a firm undertone. K/S brands, spot, 18s. 3d., and less for bulk quantities. Shipment, October-December, 15s. 9d.; January-March, 15s. 9d. per lb. c.i.f.

MERCURY.—Spanish-Italian is quoted for shipment at 35 dollars per bottle, f.o.b. Continental port. Spot is at 35 dollars per bottle, ex store.

OPTUM.—Business has been rather quiet, but the market is steady at 1s. 2d. per unit, landed and duty paid.

PEPPER.—The market has been rather quiet, and values are a shade easier. Lampong, spot, 6d.; shipment, October-

December, 4½d.; January-March, 4½d. c.i.f. Tellicherry, spot, 6½d.; shipment, January-March, 46s. 6d. c.i.f. Aleppy, spot, 6½d. shipment, January-March, 44s. 6d. c.i.f. White Muntok, spot, 6½d.; shipment, October-December, 5½d.; January-March, 5½d.; March-May, 5½d. per lb. c.i.f.

PIMENTO.—Market has been rather quiet but is steady. Spot, 3½d. per lb.; shipment, January-March, 25s. 3d. per cwt. c.i.f.

RUBBER.—Values were easier early in the week, with a partial recovery to-day, and the market is steadier. U.K. stocks total 94,692 tons, compared with 129,942 tons a year ago. Standard ribbed smoked sheet, sellers, spot, 2½d.; December, 2½d.; January, 2½d.; January-March, 2½d.; April-June, 2½d.; July-September, 2½d.; October-December, 2½d. per lb.

SAFFRON.—Market is steady; business fair in small lots. Spot, prime B.P., 66s. 6d.; extra B.P., 59s. 9d.; super B.P., 56s. 6d. per lb., and slightly less for bulk quantities.

SANDALWOOD CHIPS.—Dealers are offering spot supplies at 60s. per cwt.

SARSAPARILLA.—Business has been fair on small lines and the market is steady. Native, mixed colours, 1s. 1d. to 1s. 2d.; grey Jamaican, 1s. 9d. to 1s. 10d. per lb. as to quantity.

SEEDS.—ANISE.—Spanish, 53s.; Levant, 34s. per cwt. on spot. No Russian. CANARY.—Market quiet: Mazagan, spot, offering at 13s.; Tangier, 12s. 6d.; Kenitra, 12s. LINSEED.—Spot, Mazagan quoted at 13s. 6d.; Morocco, 13s. CORIANDER.—No demand. 1929 crop, 15s. 6d.; wormy, 13s. 6d. to 14s. 6d. CUMIN.—Malta, 35s. spot; Morocco sold at 32s. FENUGREEK.—Morocco, 12s. spot; ten tons sold at 11s. 6d., duty paid. CARAWAY.—Dutch firm, 32s. 6d., duty paid. MUSTARD.—English, 22s. to 34s. per cwt., according to quality.

SENEGA.—Market is rather cheaper. Spot, about 2s. 2d.; shipment, about 2s. per lb. c.i.f.

SENNA.—Business has been very moderate, but the market for Alexandrian and Tinnevely pods is at former rates. Recent arrivals of manufacturing Tinnevely pods have shown a definite falling off in quality, containing a proportion of black and split pods. This is thought to be the result of the increased demand this season, and much later pickings have had to be made to fulfil orders booked early in the season. These arrivals would not pass the London standard of f.a.q., and consequently some disputes have arisen. The early shipments of good quality are now likely to command firmer prices.

SHELLAC.—Market is quoted at lower rates; business rather poor. Spot, standard TN orange, 56s.; fine orange, 65s. to 130s.; pure button, 70s. per cwt. For delivery, TN, March, 49s. 6d.; May, 50s. 6d. per cwt.; for arrival, TN, December-January, 47s. 6d. per cwt. c.i.f.

SQUILL.—Limited supplies of No. 1 are available on spot at about 25s. per cwt.

STRAMONIUM LEAVES.—Dealers quote spot from 40s. to 47s. 6d. per cwt. as to grade.

VALERIAN ROOT.—Spot supplies are quoted at about 65s. per cwt.

WAX (VARIOUS).—A very fair business has been transacted in these products and the markets are quite steady. CARNAUBA, fatty grey and chalky grey, is dearer at 87s. 6d.; medium yellow is steady at 140s.; fine yellow is unchanged at 155s. CANDELILLA steady at 75s. per cwt. SPERMACETI steady at 9½d. per lb. spot. PARAFFIN is about steady at from 22s. 6d. to 50s. per cwt. as to melting point. CERESIN is quoted from 35s. to 80s. per cwt. as to colour and melting point. BEES' now very steady, with more inquiry on the market; bleached, discs, £7 10s.; slabs, £7 5s.; yellow refined is very steady at £5 15s.; yellow crude, 97s. 6d. per cwt. spot.

### Essential Oils, etc.

BUSINESS has been rather better this week. The general tone is quite steady, and in a number of products firmer conditions obtain with prices moving up. Brazilian bois de rose is dearer and firm on a short spot market. Cedarwood is steadier. Bourbon geranium is unsteady on spot, but shipment is dearer. West Indian lime is firm and again dearer. There has been more life in the Japanese peppermint market. Petitgrain is firmer and may reach high figures.

ALMOND.—Makers quote English sweet almond in cwt. lots at 2s. 5d.; smaller quantities up to 2s. 7d. per lb. Dealers are offering s.a.p. at 7s. 4d. to 7s. 6d. per lb.

**ANISE (STAR).**—The spot market is dull and unsteady: shipment slack: spot, "Red Ship," in leads, 1s. 10½d.; in tins, 1s. 8d.; in drums, 1s. 7½d.; shipment, in leads, 1s. 9d.; in tins, 1s. 7d.; in drums, 1s. 6½d. per lb. c.i.f.

**BERGAMOT.**—This market continues unsteady and business is not easy to negotiate at the recent lower rates. Spot, about 8s. per lb.; shipment is now generally under 7s. per lb. c.i.f.

**BOIS DE ROSE.**—The acute scarcity on spot and at origin of Cayenne continues, and beyond an occasional isolated small lot at a fancy price the market is nominal. Brazilian is also running short on spot and values are now firm and dearer from 5s. 6d. per lb., and some holders are looking for higher prices.

**CAJUPUT.**—The market remains dull, with dealers offering spot at about 2s. 6d. per lb.

**CARAWAY.**—Occasional small business is being done with Continental twice rectified about 7s. 6d. to 7s. 9d. per lb., as to quantity.

**CASSIA.**—Very little interest shown in this product with spot quoted at 3s. 8d. to 3s. 9d. per lb., as to quantity.

**CEDARWOOD.**—The Colonial article is a point dearer with spot at 1s. 8½d. per lb., in drums; in tins, 1s. 9½d. per lb. American, spot, about 1s. 10½d. per lb. in drums; smaller quantities, up to 2s. 1d. per lb.; shipment, 1s. 8½d. per lb. c.i.f.

**CINNAMON LEAF.**—This market is unchanged with but little business moving: spot, in tins, 3s. 3d. to 3s. 4d. per lb.; shipment, in drums, 2s. 4½d. per lb. c.i.f.

**CITRONELLA.**—Ceylon on spot is about steady but rather dull at 2s. 2d. to 2s. 3d.; shipment is a point easier at 1s. 11½d. per lb. c.i.f. Java is quoted at about 2s. 11d. to 3s. 1d. on spot, and shipment is a point cheaper at 2s. 7½d. per lb. c.i.f.

**CLOVE.**—The demand for Madagascar has been rather quieter, but spot is about steady at 3s. 9d. per lb.; shipment, about 3s. 2d. per lb. c.i.f. English is quoted from 4s. 9d. to 5s. 4d. per lb., as to make and quantity.

**EUCALYPTUS.**—A steady business is being done, mostly in the Colonial product. Australian, 70 to 75 per cent., 1s. to 1s. 0½d.; 80 to 85 per cent., 1s. 1d. to 1s. 1½d. per lb., and less for bulk quantities. Spanish, 70 to 75 per cent., 1s. 2d. per lb.

**GERANIUM.**—The shipment market for Bourbon is advised firmer at fully 22s. 6d. per lb. c.i.f. Spot continues unsteady with some offers well under 23s. per lb. Algerian is also reported dearer at source, with a pure oil now fully 24s. 6d. per lb. c.i.f.

**GINGERGRASS.**—Business is limited, market steady: spot is quoted at about 6s. 6d. to 6s. 8d. per lb., as to quantity.

**JUNIPER BERRY (B.P.).**—Spot quotations continue at about 4s. 6d. per lb., and less for good quantities. Business is slow.

**LAVENDER.**—Although cheap offers are still on the market and business has not been of much account, the shipment market for French of the best brands tends to become steadier, as follows: 50 to 52 per cent., 10s. 6d. to 10s. 9d.; 40 to 42 per cent., 9s. 3d. to 9s. 6d.; 38 to 40 per cent., 8s. 9d. to 9s.; 36 to 38 per cent., 8s. 3d. to 8s. 6d.; 30 to 32 per cent., 7s. 6d. to 7s. 9d. per lb., delivered, and slightly less for bulk quantities.

**LEMON.**—The shipment quotations for new crop Sicilian hand-pressed continue to vary from about 4s. 2d. to 6s. per lb. c.i.f., as to brand and quantity. There is not much interest, except for a few inquiries for the cheaper brands. Californian, in large drums, 48 cents; in small drums, 49 cents per lb. spot.

**LEMONGRASS.**—The quoted prices might be shaded for good quantities: spot, 2s. 4½d.; shipment, about 2s. 2½d. per lb. c.i.f. Market is steady but quiet.

**LIME.**—A further sharp advance in spot values is recorded, with very limited supplies of genuine West Indian at fully 38s. to 39s. per lb., and tending to go much higher. The quantity at origin to come forward for this season is stated to be negligible, and the shipment price is nominal.

**MANDARIN.**—Spot is rather cheaper with offers at about 15s. 9d. per lb.; shipment is easier at 13s. 6d. per lb. c.i.f.

**ORANGE.**—There is not much interest shown in quotations for new crop Sicilian sweet, but prices are being maintained at about 5s. 9d. to 6s. 9d. per lb. c.i.f., as to brand and quantity. Spot is from 6s. to 7s. per lb. French Colonial continues to be offered at attractive prices at about 4s. per lb. c.i.f. West Indian, about 5s. per lb. c.i.f. Californian, spot, 66 cents to 75 cents per lb., in drums, as to quantity.

**PALMAROSA.**—Business is limited, with spot offers at about 8s. 3d. to 8s. 4d. per lb. as to quantity; shipment, about 7s. 4d. per lb. c.i.f.

**PEPPERMINT.**—There is good interest in spot Japanese, with sellers now asking 6s. 9d. per lb., with 6s. 7½d. paid. There has also been more inquiry for shipment, with October-December at 6s. 6d. and January-March at 6s. 6d. per lb. c.i.f. The shipment market is fully steady. American oil in drums is holding at the former shipment quotation of 1 dollar 95 cents per lb. c.i.f.

**PETITGRAIN.**—This market is dearer and tends to advance. The shipment position is difficult to define, but assuming supplies are available for shipment the price would not be less than 4s. 9d. to 5s. per lb., and possibly higher. Spot offers are, for the time being, at comparatively cheap prices, in the region of 4s. 8d. to 5s. per lb., and tend to advance.

**ROSEMARY.**—Business is rather poor. Spot is quoted at about 1s. 11d. to 2s. 1d. per lb. as to quantity, for Spanish. French, 3s. to 3s. 3d. per lb.

**SANDALWOOD.**—The scale of prices for genuine East Indian is unchanged at 24s. to 25s. per lb. as to number of cases.

**SEARMINT.**—Market remains dull and is easy for quantities as quoted at 7s. 9d. to 8s. per lb.

**SPIKE.**—This market is very steady, with Spanish on spot fully 3s. 3d. to 3s. 6d. per lb. as to quantity. Shipment is mentioned at about 3s. 2d. per lb. e.i.f.

**WORMSEED.**—Some offers are at cheap rates on spot, but the usual figure is in the region of 14s. per lb., with shipment about 12s. 9d. per lb. c.i.f.

## Trade-Mark Applications

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary," 1932, p. 339.

(From "The Trade Marks Journal," December 7, 1932.)

"EMIL": for insecticides (2). By The Beaupre Limestone Co., Ltd., The Bridge, Cowbridge, Glam. 535,045.

"DIAMIDOL": for chemicals (2). By Dimol (Veterinary), Ltd., 40 Ludgate Hill, London, E.C.4. 535,869.

"PEBECOL": for medicinal chemicals (3) and for tooth paste (48). "HANSAPLAST," "PANDIGAL" and "ANGLOPLAST" for medicinal chemicals (3). By Beiersdorf, Ltd., Bessemer Road, Welwyn Garden City, Herts. 532,708/709/710/712; 534,484.

"AMENZET": for ointments (3). By Hannah Barlow, 120 Fleetwood Road, Norbreck, Cleveleys, Lanes. 534,754.

"VENOLENE": for all goods (3). By Veno Drug Co., Ltd., Chester Road, Manchester, S.W. 535,092. (Associated.)

"NEMGA": for medicinal chemicals (3). By S. J. Beale, 7 Melbourn Street, Royston, Herts. 535,233.

"NER-VEIS": for a medicated preparation (3). By J. H. Hope, 162 Deane Road, Bolton. 535,416.

"OESTROFORM": for medicinal chemicals (3). By The British Drug Houses, Ltd., Graham Street, City Road, N.1. 536,016.

"CONEX": for essences, etc. (42). By Stevenson & Howell, Ltd., 95A Southwark Street, London, S.E.1. 535,063. (Associated.)

"AMORETTA": for toilet creams and rouge (48). By Elizabeth Arden, Ltd., 25 Old Bond Street, London, W.1. 531,151.

"NIGHT IN VIENNA": for perfumery, etc. (48). By Yvonne King, 29 Sandy Lane South, Wallington, Surrey. 534,659.

"CRESCREEM": for hair preparations and face creams (48). By C. Bevington, 19 Fleet Street, Coventry. 535,213.

"THARK": for perfumes, etc. (48). By S. Ferris, 6 Inverary Avenue, Belfast. 535,980.

"MASVIBRA" on diamond shape device; for hair and face creams and shampoo powder (48). By W. J. Austin, Queen Adelaide, Ely. 535,664.

"OGELLA": for perfumery, etc. (48). By Osborne, Garrett & Co., Ltd., 51-54 Frith Street, Soho, London, W.1. 535,746. (Associated.)



# Correspondence

Letters should be written on one side of the paper only. Correspondents may adopt an assumed name, but must in all cases furnish their real name and address to the Editor.

## Caution

SIR,—We think it our duty to warn other manufacturers against falling into a trap which has on several occasions recently been laid for us. We have received very large and tempting offers for several of our products from France. Everything has appeared to be perfectly in order, the inquiring firms have given apparently good references and have stated that payment would be guaranteed by their bank. On each occasion we have taken the precaution of making very careful inquiries about the banks in question, with the result that we have discovered the latter to be totally unreliable. . . . As we think that some of our fellow manufacturers might possibly be caught by what at first glance appears to be very profitable transactions, we think you would be rendering a service if you published the foregoing:

Yours faithfully,  
HOWARDS & SONS, LTD.,  
GEOFFREY E. HOWARD, Director.

Ilford.

## Dead Stock

SIR,—Mr. Bernard W. Gill, in his letter in the *C. & D.* of December 10, touches a very important question in the matter of branded chemicals or medicaments. How to deal with this problem must be left to the individual or firm; but generally speaking, the usual procedure is to supply the nearest size original package at retail price *plus* is. dispensing fee. Where this is impracticable, many firms break the package and supply the prescribed quantity at a margin over the cost of the original, relying for profit on a repeat prescription. This latter course ensures that this particular form of dead stock has paid its original cost. Where the quantity of an unstocked drug of this description is a matter of grains the dispenser should endeavour to get it from a local chemist, and failing that, should send to a large dispensing business. Much depends on the friendliness of prescribers. We can reduce dead stock very considerably by using caution. Even then we shall have the "stickers," and for them I endorse Mr. Gill's suggestion of an exchange, preferably through local Associations.—Yours truly,

COMMON SENSE (13/12).

## Where Chemists Lag

SIR,—*"Common Sense"* hits the nail on the head. It is a fact that the optician, the medical man and the dentist can get payments for their work that is out of all proportion to the miserable pittance doled out to the pharmacist. The fault, in my estimation, lies entirely at his door. The only "fee" he can claim is for dispensing, either under the N.H.I. Scheme or for "scripts" handed in by customers in the usual way of business. It is a fact that cannot be gainsaid that many pharmacists are charging prices for their dispensing that are practically the same as those they were getting in pre-war days. If proof of this is required, it can be obtained from any customer who has a script that has been dispensed by different pharmacists in various parts of the country. The variation is very large. The dispenser who charges a price based on some such system as that in the price list issued by the *C. & D.* is often regarded as a "profiteer," to use no stronger expression. The real truth is that the man who has charged a price that does not really pay him should be regarded as a "blackleg." Now this charge for dispensing is the only one that can be recognised as a "fee"; after all the unqualified man can sell crowds of things the pharmacist sells—and of the same quality; but he may not dispense scheduled poisons. In my estimation the subject could be raised to a higher level in

twelve months if all the local pharmaceutical associations and branches of the National Pharmaceutical Union throughout the country would make the question of dispensing fees the central plank of their platform for the coming year. It is a simple one; it calls for no special knowledge; every pharmacist is vitally interested in it; there is no doubt it would arouse widespread interest. It will be admitted that many of the subjects discussed at trade meetings are not of practical interest, but surely here is one that would appeal to everyone. The data for discussion are to hand; the details of cost of labour, time taken, value of ingredients, are easily available. Why should not the N.P.U. take up the matter?—Yours, etc.,

COUNTRY CHEMIST (12/12).

## Planning Income and Expenditure

SIR,—Mr. Chandos Bidwell tells us how we should attend to our money management (*C. & D.*, December 3, p. 675), and explains how big business concerns budget for three months ahead. The retail chemist, especially the small man, cannot do this, because by reason of the small amount of his turnover and profit he is always working practically on the margin, and also because he is never sure from day to day what his takings will be, or what circumstances will affect them. All kinds of outside events affect the retailer's takings—a wet week-end, road repairs in front of his shop, a gift week at a store, local bazaars; and none of these things can be foreseen. If he keeps a chart of expenditure he will find that the principal items (rent, rates, taxes, insurance, etc.) do not suffer these sudden and unexpected drops; and the only way in which he can economise to meet the fall in takings is by cutting down some expenses under his control. I am afraid that the small chemist will have to go on as he has always done, thinking himself fortunate if his takings enable him to meet his liabilities as they arise, and to leave a little over for himself, hoping that by constant application to work he may in time put a little aside and to stand more firmly on his feet.

Faithfully yours,  
DAY BY DAY (12/12).

## Subscribers' Symposium

For interchange of opinion among "C. & D." readers and brief notes on business and practical topics.

### Lantern Slides

May I ask the favour, through the columns of your invaluable journal, from any of your readers who may have any lantern slides on hand for which they have no use, and of which they would like to ensure the use for philanthropic purposes, kindly to communicate with me? I will gladly bear the cost of carriage for any suitable slides, and guarantee that at no time shall they be used otherwise than as stated above.—*W. T. Gorfett*, 160 Kingston Road, Portsmouth.

### Warning

*Mr. A. F. Brownlow*, 12 Bridge Street, Stratford-on-Avon, informs us that a man giving the name of C. Brownlow and Mr. A. F. Brownlow's address is obtaining goods from wholesale houses in London and having them entered to Mr. A. F. Brownlow's account. When last seen, the man (who is tall, broad-built and clean-shaven) was wearing a fawn felt hat and a blue serge suit.

### The Manufacture of Galenicals

Recent discussions regarding the manufacture of galenicals in the pharmacy are having a salutary effect. It can be proved that from an economic point of view it is more profitable to make in the pharmacy the simpler preparations of the B.P. and B.P.C. On the other hand, there are many preparations requiring elaborate apparatus or complicated processes; and to attempt making them on a small scale would be ridiculous. The economic situation has perhaps done more than discussions to foster pharmaceutical practice in the shop. It is all to the good that we chemists should return to our heritage.—*Common Sense* (13/12).

### Pharmacy's Debt to the Arabs

The article on "The Beginnings of Alchemy" in your issue of December 10 set me delving in an etymological dictionary for words of Arabic origin. There can be no doubt of the solidity of the Arabs' contribution to pharmacy. Sugar, syrup, henna, alcohol, julep, kermes, are pure Arabic; tamarinds prove by their name that they came from India, via Arabia (*tamr*, ripe date, and Hind, India); manna, camphor, senna and myrrh all bear the imprint of their Arabic origin. It is interesting to note that syrup is nearly allied to sherbet, in the East a cooling drink made from diluted fruit juices, but not, as in the popular English use, effervescent. Julep, now a sweet drink used as a vehicle for medicine, was originally rose water, which was first distilled by the Arabs. Alcohol was originally the Arabic word for sulphide of antimony, more particularly the sublimed variety used by the Arab women for staining their eyelids. In course of time it came to be applied to other fine powders obtained by sublimation—for example, sublimed sulphur was described as alcohol of sulphur; and by a natural transition a liquid produced by the analogous process of distillation was known as alcohol of wine.—*Bernard W. Gill*, Nottingham.

## Legal Queries

*-Griffin* (22/11).—The title "Catarrh Pastille" renders the article liable to medicine stamp duty.

*R. J. B.* (8/11).—The law in regard to sales of wine under such circumstances as you put is that the sale must not take place at any agency office for which a licence is not held. A sale takes place when and where an offer to purchase, that is an order, is accepted by someone who has authority to either accept or refuse the order. In your case, therefore, the person at the unlicensed agency office should only receive the order and then transmit it to your licensed premises for you to accept it there.

*H. S.* (8/10).—The mention of various ailments on the label for aspirin tablets renders the article liable to medicine-stamp duty. If these tablets are to be sold unstamped by chemists as a "known, admitted and approved" remedy, the conditions laid down by the Commissioners of Customs and Excise must be complied with, which require the full disclosure of the formula, including amounts, on the label and also on the carton, together with the words "no proprietary rights are claimed in the preparation of this medicine."

*A. M.* (3/10).—The rule which should be followed wherever possible in all cases of ambiguity is reference back to prescriber. We think the chemist should be given credit for what he dispensed. The doctor may have intended to order  $1\frac{1}{2}$  grain of potassium iodide, but he does not order that on the form. The quantity of ammonium carbonate is plainly gr.  $1\frac{1}{2}$ , but that of the potassium iodide is more like gr. 13. We suggest the chemist should protest to the Bureau against being allowed only for gr.  $1\frac{1}{2}$  per dose, and if they cannot compromise the matter between them he should refer it to the secretary of the Local Pharmaceutical Committee.

## Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for, and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

*S. & Co.* (2/38).—CARBOY COLOURS.—A selection of formulas for carboy solutions is given below:—

*Amethystine*  
Sodium salicylate .. 10 gr.  
Tincture of per-  
chloride of iron ..  $\frac{1}{2}$  dr.  
Water, distilled .. 2 gals.  
Dissolve the salicylate in the  
water and add the tincture.

*Blue*  
Copper sulphate .. 4 oz. or more  
Solution of am-  
monia .. .. a sufficiency  
Distilled water .. 2 gals.  
Dissolve the copper sulphate  
in 2 pints of water, and add  
solution of ammonia with  
constant stirring until the pre-  
cipitate is re-dissolved, then  
add the rest of the water.

*Canary*  
Picric acid .. .. 2 oz.  
Distilled water .. 2 gals.

*Purple*  
Potassium perman-  
ganate .. .. 40 gr.  
Sulphuric acid .. 1 dr.  
Distilled water .. 2 gals.

*Green*  
Copper sulphate .. 1 lb.  
Common salt .. 3 lb.  
Hydrochloric acid .. 1 pint  
Distilled water .. 2 gals.  
Dissolve the sulphate and  
salt in the water, add the acid,  
and set aside for several days,  
then decant the clear solution.

*Orange*  
Potassium bichro-  
mate .. .. 1 lb.  
Nitric acid .. .. 8 oz.  
Distilled water .. 2 gals.  
Dissolve the bichromate in  
the water, and add the acid.

*Red*  
Iodine .. .. 3 dr.  
Potassium iodide .. 3 dr.  
Hydrochloric acid .. 10 oz.  
Distilled water .. 2 gals.  
Dissolve the iodine and  
iodide in 8 oz. of water, and  
dilute with the rest, to which  
the acid has been added.

Aniline dyes make pretty colours but require renewing fairly frequently.

*W. W.* (5/38).—STOVE POLISH.—A formula for a liquid stove polish is as follows:—

Bone black .. .. 2½ parts  
Graphite .. .. 2½ parts  
Iron sulphate .. .. 5 parts  
Water to form a creamy paste

Bone black and graphite are the bases of almost every stove polish, the resultant product being a paste or liquid according to how much water is added. The polish is improved if a small amount of glycerin or molasses is incorporated.

## Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," December 15, 1882

### A Trade Discussion

The London Committee of the Chemists and Druggists' Trade Association called a meeting of the trade to discuss questions of interest for the evening of Wednesday last, December 13. . . . We believe that circulars inviting attendance were sent to all the chemists in London, and the result was that at the hour specified twenty persons, including reporters, were present. In the course of the evening the number grew to thirty-two. Mr. R. HAMPSON, president of the Association, occupied the chair. . . . Mr. HORNCastle considered that pharmaceutical legislation hitherto had benefited the public rather than pharmacists, and it was time to ask for something for ourselves. He saw no difficulty in restricting [the sale of] the compounds of the Pharmacopœia used for medicinal purposes to pharmacists. . . . Mr. W. COOPER said that the Pharmaceutical Society in 1868 had produced a cramped Act, which was of no use to pharmacists. It was only necessary to look at the Schedule to see that those who drew it up knew nothing of their business. It ought to have included some 200 or 300 drugs. . . . The CHAIRMAN said neither the Privy Council nor Parliament would ever have accepted such a schedule as Mr. Cooper had suggested.



# QUINISAN

## THIS WINTER

### for Colds and Influenza

Apart from a strong campaign which we are about to undertake among the Medical Profession, we have decided to facilitate the sale to the Public by a drastic

## REDUCTION IN PRICE

In future Quinisan will be put up in bottles of 20 and 80 Tablets, which should retail to the Public at 1/9 and 6/6 with a

**HANDSOME PROFIT**  
to the Retailer.

Quinisan has proved itself to be a

**REMARKABLE REMEDY for  
INFLUENZA, TONSILITIS and  
HEAVY COLDS**

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(Shipped by W. K. BURNSIDE PTY., LTD., 34/36 JEFFCOTT STREET, MELBOURNE)

ALL B.P. GRADES

70/75 % B.P.  
A specially rectified Oil of  
high and very uniform Quality

Packed in Cases and Drums

STOCKS IN LONDON

80/85 % B.P.  
Distilled from E. POLYBRACHTEA  
The finest B.P. Oil obtainable

All Grades can be relied upon to be Constant in Quality, Odour and Colour

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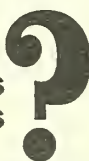
# SOLAZZI

*The Chemist's Brand*  
**LIQUORICE JUICE**

**SOLAZZI JUICE IS GUARANTEED  
TO CONSIST ENTIRELY OF THE  
CONDENSED EXTRACT OF FINEST  
CALABRIAN LICORICE ROOT  
WITHOUT ANY ADMIXTURE WHATEVER**

Should any enquiry as to the composition of  
SOLAZZI be received from the public, Chemists  
are asked to emphasise the fact that SOLAZZI  
is not included in the category of Secret  
Remedies, and that the accompanying guarantee  
obtains with every parcel.

**BALSAMS  
CINCHONA  
CRUDE DRUGS  
GUMS, RESINS  
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27 MINCING LANE, LONDON, E.C.3

IMPORT PHARMACEUTICAL PRODUCE

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**SPOT  
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HELD**

## BEST ITALIAN ESSENTIAL OILS

Limone - Bergamont - Orange - Lime - Neroli  
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Naturals and Terpenless

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FROM OUR  
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Alexandrian & Timnevelly  
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Commercial and B.P. Qualities  
also Powdered

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Commercial and B.P. Qualities  
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Commercial and B.P. Qualities

## Zinc Chloride

Fused, Granulated and Liquid

**WILLIAM  
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Holland Bank Chemical Works

**CHURCH  
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## Hyposulphite

of Soda *Pea Crystals*

## Lead Arsenate

Paste and Powder

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## WEED KILLER

A list of our general Technical  
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ARABIC (Whole & Powdered)

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*Fine Chemicals      Opium Derivatives*

Aloin • Atropine • Bismuth Salts • Caffeine

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Pharmaceutical Chemicals and Preparations

*Goods covered by Dangerous  
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*Blandfield Works  
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*25 Christopher Street,  
London, E.C.2*

*32-34 Virginia St.  
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EST. 1827

## PURE RUSSIAN LIQUID PARAFFIN MEDICINAL B.P.

ALL GRAVITIES.

HIGHEST VISCOSITY.

## PURE RUSSIAN "JASMINE" BRAND WHITE OILS

CHEMICALLY PURE.

WATER WHITE.

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FOR MANUFACTURING PURPOSES.

*Competitive Prices.*

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**ESSENTIAL OILS****NATURAL  
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**Hæmorrhoidal  
Suppositories  
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contain a vaccine obtained  
from pure culture of  
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Suppositories—boxes of 10.  
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**AN EVER INCREASING  
DEMAND AND A SOUND  
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**Special  
MEDICAL  
PREPARATIONS  
include:**

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**PETROLEUM JELLIES**

WHITE, LEMON, YELLOW, AMBER, RED, GREEN.

**WHITE & COLOURED OILS**

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**LIQUID PARAFFIN**COLOURLESS, TASTELESS, ODOURLESS.  
ALL SPECIFIC GRAVITIES.

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*Wholesale Trade only.***STERNS LTD.**

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**WHEN ORDERING OINTMENTS  
DON'T SAY SUPER-QUALITY  
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**SPUN****IT'S SHORTER-AND-IT MEANS THE SAME THING****"SPUN" OINTMENTS**

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13 Crichton Place, Cardiff, and  
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Messrs. W. SUTTON & CO., Druggists' Sundries  
London—76 Chiswell Street, London, E.C.1

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Telephone:  
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"Ushenspuna, London."**ROBERT BLACKIE**SHEN WORKS,  
TOWER BRIDGE RD.  
LONDON, S.E.1



# A PERMANENT 'ASPRO' DISPLAY

## MEANS DOUBLE 'ASPRO' SALES

AND MANY NEW CUSTOMERS  
FOR OTHER LINES AS WELL

'ASPRO' is the most powerfully advertised line of its kind in the world. Over 300 papers, with a total circulation of more than 32,000,000 carry the 'ASPRO' message several times monthly into almost every home in the country. Display 'ASPRO' continuously in your window and shop, and you will benefit from this enormous campaign just as though you paid for the advertisements yourself. Not only will your 'ASPRO' sales be doubled, but the display will bring new customers to your shop who will purchase other lines as well. This has been proved by many enterprising chemists. Write us to-day for our current window display and test it for yourself. You will see how quickly the public respond to the 'All-British' appeal of 'ASPRO.' There are also frequent changes of window stickers and giant cartons available.



Here is a typical 'ASPRO' window display attractively printed in full colour.

'ASPRO' consists of the purest Acetylsalicylic Acid that has ever been known to Medical Science, and its claims are based on its superiority.

Agents—

**GOLLIN & CO., Pty., Ltd.** ('Aspro' Dept.) SLOUGH, BUCKS.  
Phone: SLOUGH 608.

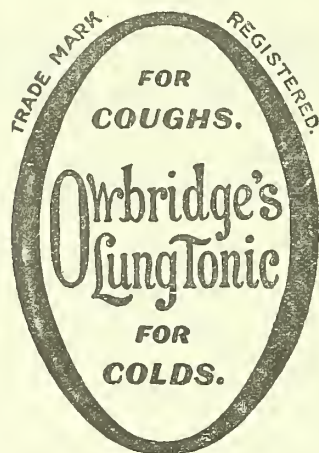
Made by ASPRO LTD., SLOUGH, ENGLAND.

No proprietary right is claimed in the method of manufacture or the formula.



# 'ASPRO' IS ALL BRITISH





A Happy Christmas  
and a  
Prosperous New Year  
to all our Friends.

W. T. OWBRIDGE, LTD., The Laboratory, HULL.

*If your shop  
suffers from congestion  
Stock*

## **BIRLEY'S ANTACID POWDER**

*The World's Best Remedy for  
**INDIGESTION**  
—and the latest way of clearing the  
chemist's shelves*

Sales have increased 300% in 3 years and are still going up. This is certainly "the goods."

Get in a supply from your Wholesaler at once.

1/3, 3/- and 5/- tins at  
11/6, 27/6 and 46/- per doz.

**BIRLEY'S ANTACID LTD.**  
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## **CHEMISTS**

If you do not stock the **NATIONALLY  
ADVERTISED** line

## **CONSTIPON**

we will send you a small supply with all  
advertising matter on

## **SALE OR RETURN**

CONSTIPON

GLASGOW, C.2.

**—23,251—**

total Renipas users to date, being 233 more than when we advertised a fortnight ago. Our sales are growing daily, and yours will do the same if you let this Army of users know that you stock

## **RENIPAS**

Our buyers in your district are yours for the taking.

Renipas is stocked by principal Wholesalers such as:—  
Butler & Crispe, May Roberts, Barclays, Edwards, Newberys,  
Sangers, Hodders (Bristol), Daniels (Derby), Butler, St. Dalmas  
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(Liverpool), Barnes & Crompton (Preston), Hedges (Birmingham),  
McMullan (Belfast).

International Chemical Association, 69 Fleet St., London, E.C.4



# GALLOWAY'S COUGH SYRUP

*SHOWS OVER 50% PROFIT  
WHEN BOUGHT ON BEST TERMS*

## A £5 ORDER

ENTITLES YOU TO

10% DISCOUNT and 2½% for Prompt Cash

**1/3 SIZE 12/- PER DOZ.**

**2/6 „ 24/- „ „**

*CARRIAGE AND PACKING FREE IN UNITED KINGDOM*

## FAMILY LUNG SYRUP

Special Offer for £5 Parcel

**6½d. size - - - 4/9 per doz.**

**1/- „ - - - 9/- „ „**

**1/6 „ - - - 13/6 „ „**

*5% DISCOUNT AND 2½% FOR PROMPT CASH*

---

*LOOK TO YOUR STOCKS AND  
SEND YOUR ORDER NOW*

---

**P. H. GALLOWAY, LTD.**  
**LONDON, S.E.17**



## Here's your Profit from this 6d. Box

THE substantial profit that "GRIPS" give is not the only satisfying feature about these Pastilles. "GRIPS" sell quicker and repeat better than any pastille in the world—regardless of price. The old original throat pastilles, the favourite of millions

who have bought them for years and years. "GRIPS" should have a place in every chemist's display.

Your customers expect to find "GRIPS"—do not disappoint them. Samples and prices sent gladly.

Agents to the Wholesale and Retail Chemists' Trade :

**THOS. CHRISTY & CO.**

4/12 Old Swan Lane, LONDON, E.C.4

# "GRIPS"

REGD

## FIRST-AID PASTILLES

Made by Lightbowns Ltd., Accrington

3/-  
EACH

PATENT  
APPLIED FOR



**K-D** Your medicines, delicate instruments, tools, cigarettes, etc., all can be taken care of by using K-D.

- K-D** Keeps salt and sugar dry
- K-D** Keeps biscuits crisp
- K-D** Keeps jam free from mould
- K-D** Keeps rust from your wireless set, piano, clock, etc., etc.
- K-D** For wardrobe & linen cupboard
- K-D** Detects and corrects damp beds

**K-D Lasts for Years !**

Obtainable from ALL WHOLESALERS or from :  
Sole Distributors :—**ELMESAN (London) LTD.**  
66, Victoria Street, London, S.W.1

## MEL ROSE — FOR CHAPPED HANDS, &c. TABLETS

Manufactured for close on 50 years



The public demand is maintained in spite of many imitations, and Chemists can rely on sales all the year round.

Look to your Stocks.

**2d. and 4½d.**

## MEL ROSE — CREAM

Sold in Jars for the Dressing Table.  
Contains all the remedial properties of the Tablet made up in a softer form.

**9d.**

**ROBERTS & SHEPPEY** SOLE MANUFACTURERS  
2 SKIPTON ST., LONDON, S.E.1





*Lines that  
pay **YOU**—  
and your  
customers!*



# VENO PRODUCTS *offer* GOOD PROFITS *and an assurance* *of* CUSTOMER SATISFACTION



IT is doing more harm than good to your business to sell inferior articles when obviously they will never command repeat sales. On the other hand you can safely recommend any VENO Product with the definite assurance of customer satisfaction. And one satisfied user brings others . . . that is one of the reasons for the enormously high sales of VENO Products to-day. Germolene Ointment, Dr. Cassell Tablets and Veno Cough Cure will bring in consistently good profits . . . stock them and **SELL** them—NOW!

★★ Write NOW for terms and  
display material to the—

# VENO DRUG CO. LTD.

## VENO BUILDINGS—MANCHESTER



Technical White  
& Half-White  
Oils

Pharmaceutical  
Petroleum  
Jellies

**SLL**  
**MEDICINAL  
LIQUID  
PARAFFIN B.P.**

Tel.:  
**ALBERT DOCK**  
1074 (5 lines)

**SILVERTOWN LUBRICANTS LIMITED.**  
MINOCO WHARF  
WEST SILVERTOWN, LONDON, E.16.

Grams.:  
**VOLUMETRIC  
SILVER**

**NEPENTHE.**

**THE SAFEST AND BEST PREPARATION OF OPIUM.**

The word "Nepenthe" is registered under the Trade Marks Act, and is our exclusive property. No substitute may be dispensed when "Nepenthe" is ordered in a prescription. "Nepenthe" comes within the regulations of the Dangerous Drugs Act, 1920.

**FERRIS & COMPANY, LIMITED, BRISTOL.**

**BESORBON**

(Dr. Hill's Formula)

MEDICINAL SNUFF. ABSOLUTELY THE  
FINEST REMEDY FOR CATARRH AND  
COLD IN THE HEAD.

**Richard Dickeson & Co.** (Incorporated with Reynolds, Sons & Co., Ltd.)  
57-59 CHARTERHOUSE STREET, LONDON, E.C.1

AN OLD-FASHIONED—BUT REALLY EFFECTIVE  
remedy for **COUGHS, COLDS, IN-  
FLUENZA** and **BRONCHIAL** troubles.

**Licoricine**  
**ACTS LIKE MAGIC**

Prices 10½d., 1s. 3d. and 3s.

**MANDALL & CO. Ltd., 17/23 Stepney Rd., Newcastle-on-Tyne.**

**TERMS.**

10½d. size, 8/6 per doz.  
1/3 " 12/- "  
3/- " 27/- "

Less 5% dis. on 25 orders.  
Carriage paid on orders of  
£2 and over.



# 38% PROFIT ON BEECHAM'S PILLS & BEECHAM'S POWDERS



Many Chemists and Druggists are now reaping the benefits of a 38% profit on cost on Beecham's Pills and Powders. The reason for this is that recently we introduced a

## £2 PARCEL

for either Beecham's Pills or Beecham's Powders or assorted Beecham's Pills and Beecham's Powders. The £2 parcels can be obtained direct or through your usual wholesaler and carry a 2½% cash discount together with a further 5% discount for window display, carriage paid—packing free—monthly account.

**STOCK MORE—  
SHOW MORE—  
SELL MORE  
BEECHAM'S  
PILLS and  
BEECHAM'S  
POWDERS**

## ADVERTISING

Strong, virile and forceful advertisements comprising an extensive and continuous advertising campaign are appearing daily in the most important papers throughout the country. Every day they are helping you to sell more of our products and ensure a constant daily demand. House-to-house distributions augment the Press advertising throughout the British Isles, and show material is available for use in your shop or window, or on your counter.

Keep yourself well supplied with Beecham's Pills and Powders and reap the benefits to be derived from these fast moving lines.

**BEECHAMS PILLS LTD  
ST. HELENS. LANCs.**

Tel. 2241 St. Helens.

Telg. Beecham St. Helens.







X

*Our Advertising  
Campaign for 1933  
will establish a  
permanent demand for-*

*In wishing you the  
Compliments of the Season  
the Directors of  
Phillips Yeast Products Ltd.  
hope you will join them in  
a Happy & Prosperous  
New Year*

**Phillips**  
PURE  
LIVE **Yeast**



**"no risk of coughs  
when this comes home"**

## Portrait of a Gentleman

One of the ten million or so influenced  
by each insertion of Kay's national  
Press advertising. Show material  
and counter wrappers on request.

**KAY BROTHERS Ltd. STOCKPORT**

## SALES GO ON INCREASING!

Chemists who stock Snowfire Glycerine Jelly  
know that they're stocking a real best seller.  
Women everywhere have taken to Snowfire  
Glycerine Jelly with great enthusiasm. They  
have found there's nothing to equal it for  
keeping their hands soft and white and to  
banish all traces of the ravages of housework.  
They recommend it to their friends and sales  
go on increasing. Make special displays and  
reap your share of the demand.

**Snowfire**  
GLYCERINE JELLY (Vanishing)

**SNOWFIRE TABLET AND SOFT SNOWFIRE**

are always sure of a brisk demand for use at night.  
Made by **F. W. Hampshire & Co. Ltd.**  
Sunnydale Works, Derby.

Canada  
Willfred Noble & Co.,  
203 Victoria St., Toronto.

Agents :  
Australia  
Messrs. Salmond & Spraggon  
(Australia) Ltd., 218 Kent  
St., Sydney, N.S.W.



P.A.T.A. PRICES**DAISY POWDERS**

7½d. size (4 powders) .... 5/- per doz.  
 10½d. size (6 powders) .... 7/6 per doz.  
 2/9 size (20 powders) .... 23/- per doz.  
 Half Gross Boxes (72 powders).... 6/10 each

**DAISY BRAND TABLETS**

(Unstamped)

6d. size (under 1 dozen) .... 4/6 per doz.  
 6d. size (per complete dozen on  
     display rack) 4/- per doz.  
 1/3 size (36 Tablets) .... 10/- per doz.

Note.—Orders value £1 1 0 upwards for Powders  
 or Tablets (or Assorted) less 5% discount.

★ The above prices show remarkable profits,  
 especially the one guinea parcel which gives  
 retailers **58% PROFIT** on outlay with Daisy  
 Tablets and small size Daisy Powders (sold  
 intact), whilst the half gross box for split  
 bulk shows retailers no less than **85%  
 PROFIT** on cost.

MAKE UP A ONE GUINEA ORDER TO-DAY  
 AND SEND TO YOUR REGULAR  
 WHOLESALER OR DIRECT.

# HEAVY NATIONAL ADVERTISING



# HUGE PROFITS



**J. E. ELLIS, LTD.  
HORSFORTH  
LEEDS**

Safe, sound  
and solid

# Lysolats

(Regd.)

the only  
**LYSOL**  
made to the  
**ORIGINAL**  
and true  
**FORMULA**

N.B.—Relieve your depression by stocking Lysolats, Myladis' Towels, the Lysolat Douche and Douche Attachment.

The continued publicity given to these products has its climax and reward at your counter. Make the most of the opportunities presented to you.

**SOLIDOL CHEMICAL LTD.**  
DISNEY STREET, LONDON, S.E.1

# DRUMMER DYES

are constantly in great demand by women who realise the advantages of home-dyeing

It pays you well to stock and display  
**DRUMMER DYES**

safe  
easy



and  
sure

EDGE'S

BOLTON

DDT 10-31

## "VITAMIN TESTED YEAST"

*Yeast specially prepared for medicinal purposes*

GUARANTEED ABSOLUTELY PURE

MIDGLEY & PARKINSON, LTD., Warren Works, Pudsey, LEEDS

*Sole selling agents for Great Britain—*

THE OLD STRAND CHEMICAL & DRUG CO., LTD.

Audrey House, Ely Place, London, E.C.1

BE SURE TO KEEP  
GOOD STOCKS OF

# NAZONE

REGD. TRADE MARK

Inhalant 1/3, 2/6, 5/- Pastilles 1/3

Our extensive advertising will bring you good business. Nazone means regular custom of the better kind. Best for 20 years. Obtainable from all wholesalers or direct.

*Terms and Showmatter.*

**NAZONE, LTD.**  
Blackpool, Lancs.

# Glycerine

We Supply ALL Grades for

**PHARMACEUTICAL and  
MEDICINAL PURPOSES**

MAY WE HAVE YOUR ENQUIRIES?

**GLYCERINE LTD.** UNILEVERHOUSE, BLACKFRIARS  
LONDON, E.C.4

Telephone: CENTRAL 7474.

GET. 21-256 Telegrams: "GLYMOL, LUD, LONDON."





NOW AVAILABLE AT  
**BONUS TERMS**  
(OVER 70% PROFIT)

## COLLOSOL BRAND HALIBUT LIVER OIL & MALT EXTRACT

1 lb. jars at 2/6. 2 lb. jars at 4/6.

## CROOKES' STANDARDISED COD LIVER OIL

Vitamin A value not less than 25 blue units.  
Vitamin D value not less than 4,000 international  
units per oz.

8 oz. 2/-.

16 oz. 3/6.

**NOT MERELY BRITISH MADE BUT BRITISH THROUGHOUT**

Write for particulars to:—

**THE CROOKES LABORATORIES**  
PARK ROYAL, LONDON, N.W.10

Telephone: Willesden 6313 (3 lines)

Telegrams: Collosols, Harles, London

# Things needed in a Chemist's Shop

**SUTTLOCK**

**D.D. ACT REGISTER**

*Contains sections for all D.D.A. items*

**7/6** POST FREE

**S. & S.**

**POISON REGISTERS**

*Bound Stiff Covers*

**4/6, 5/6 and 6/6**

POST FREE.

**PRESCRIPTION BOOKS**

Long Folio - - Size 16" x 6½"

Broad Folio - - Size 12½" x 8"

From **19/6** POST FREE

**SHOP ROUND LABELS**

BLACK ON YELLOW PAPER.  
BOOK 600 LABELS.

*Assorted Titles,*

MEDIUM & SMALL SIZES **10/-** per book

*Loose, own wording, 3/- doz.*  
POST FREE.

**SUTTLEY & SILVERLOCK, LTD., Chemists' Printers,**  
**92 BLACKFRIARS ROAD, LONDON, S.E.1.**

Hop 3473-6.

NOTE! FREE  
YEAST PACKED  
WITH EACH TIN



**PURE BEER**  
**EASILY MADE AT HOME**

(The Daily Express says so... 9.5.1932)

FOR **1<sup>D</sup> PER PINT** : **ALE OR STOUT**

(NO LICENCE IS NECESSARY)  
FROM

**VIGGORMALT**

THE PURE  
TRIPLE-CONCENTRATED EXTRACT OF  
**RICH MALT & HOPS ONLY**

(NOTE THAT WORD "ONLY.")

NO ADULTERATION OR ADDED COLOURING

"That is a plain statement of fact which your customers will appreciate." We ask Retailers to co-operate in safeguarding consumers against mixtures loaded with substitutes and labelled so as to deceive more by suppression of facts than by what is stated.

**PURE BEER MEANS MALT and HOPS ONLY**  
**IN ONE WORD - VIGGORMALT**  
**100% TONIC FOOD**

**YEAST**  
SUPPLIED FREE  
WITH EACH TIN

**NO** MILLING  
MASHING  
BOILING OR  
FILTERING

VIGGORMALT makes genuine "OAMBIROO" BEER (ALE OR STOUT) of perfect character, by simply adding cold water and the FREE YEAST, and at an amazingly low cost. Once introduced it quickly becomes a regular item on the shopping list. National Advertising is extensive and constant.

WRITE FOR TRADE TERMS AND  
ATTRACTIVE DISPLAY MATERIAL TO  
THE VIGGORMALT DISTRIBUTORS:—

**FASSETT & JOHNSON, LTD.**  
86 CLERKENWELL ROAD, LONDON, E.C.1

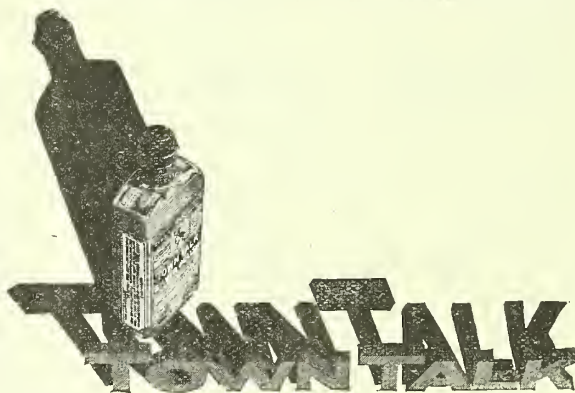
Sole Manufacturers:  
**VIGGORMALT Ltd., Davigdor Road, Hove, Sussex**

# MASON'S EXTRACT OF HERBS

May we have the pleasure of  
sending you particulars of our  
Window Display Scheme?



**NEWBALL & MASON**  
LIMITED  
NOTTINGHAM



Jewellers and Silvermiths have used  
Order from "Town Talk" Liquid Silver Polish  
JAMES for over 30 years, to clean and polish  
WOOLLEY, their own choice wares, proving by  
Sons & Co., Ltd. their example that "Town Talk"  
Manchester has no equal for cleaning Gold,  
AYRTON, SAUN- Silver and Electro Plate.  
DERS & Co., Ltd.  
Liverpool

BROOKS  
& WARBURTON, Ltd.

GOODALL, BACK-  
HOUSE & Co., Leeds

MAY, ROBERTS & Co.  
Ltd., London

or direct from the sole makers.

Terms and samples from:—

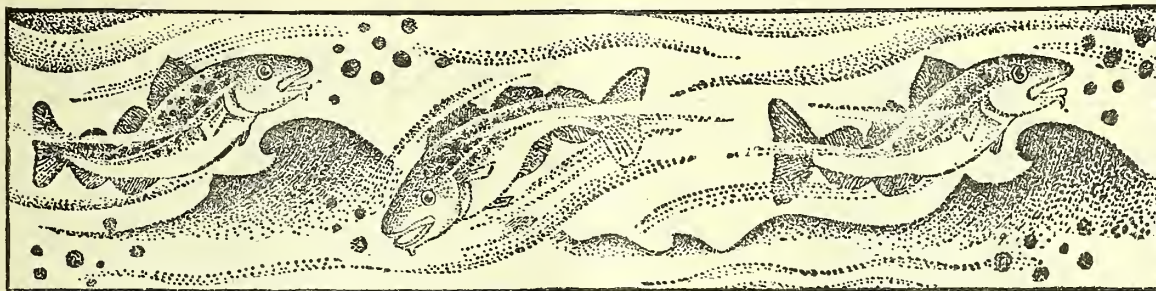
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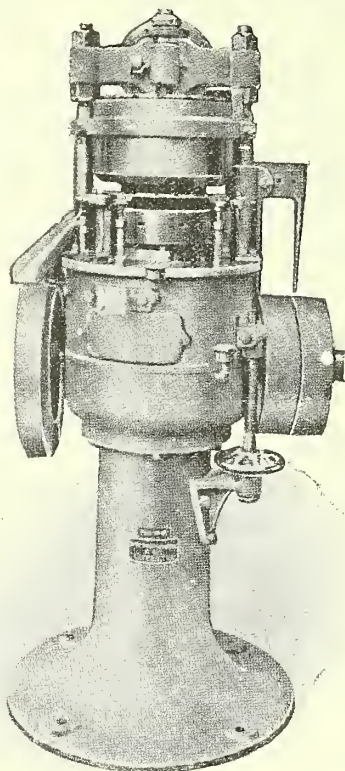
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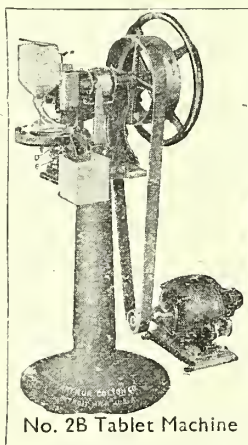
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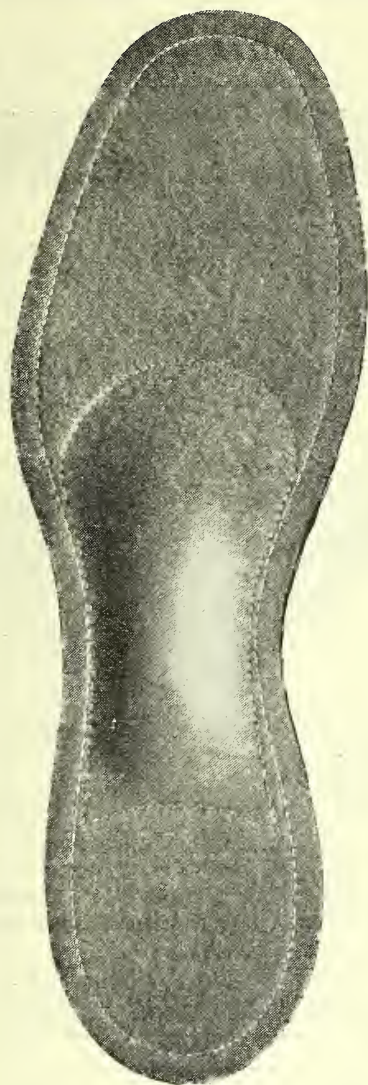
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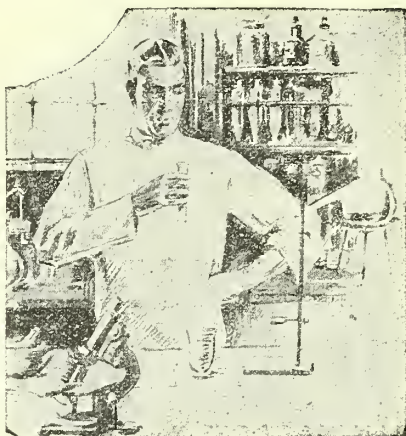
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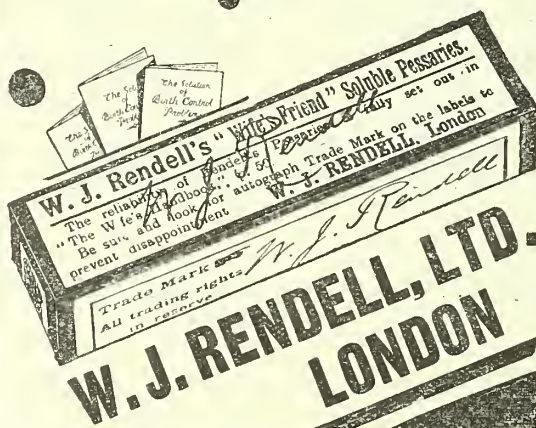
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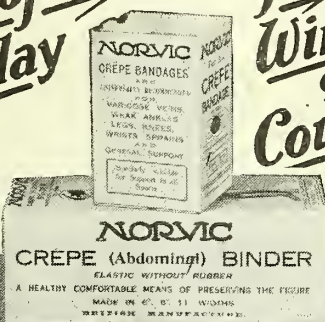
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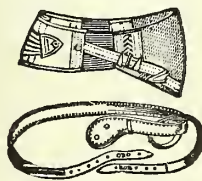
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# THE CHEMIST AND DRUGGIST SUPPLEMENT

28 ESSEX ST.  
LONDON, W.C.2

DECEMBER 17, 1932

*This Supplement is inserted in every copy of The Chemist & Druggist.*

## THE CHEMIST AND DRUGGIST SUPPLEMENT

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2.—**OXFORD STREET**.—High-class Retail and Dispensing Business; established many years; returns about £1,800 per annum, with gross profit 40 per cent.; scope for increase under personal supervision; handsomely fitted shop, well stocked; held on renewable lease; price, value of stock and fittings only.

3.—**NORTH LONDON**.—Good middle-class Retail and Dispensing Business with small Optical connection; old established; returns this year approximately £2,500; the turnover has been much more and can be resuscitated; chartered accountant's figures; stock and fixtures worth about £1,400; rent £150; sub-let 25s. weekly; held on lease; for sale on account of ill-health; price asked £2,200.

4.—**OLD-ESTABLISHED CITY BUSINESS FOR DISPOSAL**.—Returns, under management, last year £1,736; scope for increase under energetic management; small shop, very attractively fitted and well stocked; rent £200 per annum, inclusive of rates; net profit to owner-manager £400 per annum; price, value of stock and fixtures only, about £1,100.

5.—**ROMFORD (Near)**.—Cash Drug Store with D. & P. trade; returns last year exceeded £1,000; when the business was run under qualified management the returns approached £1,450 per annum; double-fronted shop in main road; stock and fixtures worth about £150; commodious house; price required for business about £400; the freehold is also for sale, price £1,250; offers would be given consideration.

6.—**HERTS**.—General Retail and Dispensing Business with increasing turnover, present rate being £110 to £115 per month; single-fronted shop in main road; nice flat over; held on lease at moderate rental; stock and fixtures worth about £550; large garden; price asked £200 goodwill, plus valuation of stock and fixtures.

7.—**LONDON, S.W.**.—Drug Store with Kodak Agency; takings average £20 per week; present rate slightly less; large shop; stock worth about £250; 14 years' lease at £60, rising to £65; good opening for qualified man; price about £550; further details on application.

8.—**MIDLANDS**.—Cash Retail Business with N.H.I. and Kodak Agency; returns, under management, £1,806; present rate about £30 weekly; double-fronted shop, well fitted and stocked; large six-roomed house with room for garage; rent and rates only about 26s. weekly; held on lease; price £1,250 or nearest offer.

9.—**SUFFOLK**.—Unopposed Retail and Dispensing Business with Wine Licence in picturesque country town; returns, under management, average £1,400 per annum at good prices; large old-fashioned house with large garden and vinery; new lease will be granted at £60 per annum; stock and fixtures worth between £500 and £600; the business could be bought on a valuation basis, an agreed sum for goodwill, say one year's net profit, plus value of stock and fixtures.

10.—**CHESHIRE**.—Family Retail and Dispensing Business for Sale; vendor wishes to retire owing to ill-health; returns last year £1,725, with scope for increase in the hands of a younger man; rent £75; one room sub-let to Dentist at £35 per annum; double-fronted shop facing station; the vendor would like to sell forthwith and in order to do so will accept £875; further details to prospective purchasers.

11.—**BRECONSHIRE**.—General Retail and Dispensing Business, easily worked, situated in market town; pleasant country surroundings; returns show an increase, last year being £1,722; current year shows a further increase; modern house; rent only £40 per annum; long lease; price asked £1,150, or £150 goodwill, plus stock and fixtures at valuation.

12.—**NORTH MIDLANDS**.—General Retail and Dispensing Business with Off Licence; established a century; returns last year £5,655, of which about one-third is from Wines, Spirits and Beers; the concern is neglected and lends itself to increase under energetic management, and with the addition of a little capital; commodious premises; the stock and fixtures are worth about £1,000, and the concern can be purchased for an agreed sum for goodwill, plus stock and fixtures at valuation.

13.—**SUSSEX COUNTRY TOWN**.—Good-class Retail and Dispensing Business; N.H.I. £80 per annum; returns about £2,500 yearly; rent £75 per annum; sub-let £40; 16 years' lease unexpired; stock and fixtures estimated to be worth £1,400; price to be arranged.

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3.—**SURREY** (25 miles out).—Unopposed good-class Family and Dispensing Business in growing district; returns approach £1,250; good profits; modern house, every convenience; good stock; price £950, or offer.

4.—**SOUTH DEVON**.—Sound general Family, Retail and Dispensing Business, in small market town; returns £1,200, increasing; good house and garden; excellent stock; price £950.

5.—**LIVERPOOL**.—Light Cash Suburban Business, returning under manager, £1,450; gross profit £550; splendid position on new housing estate; scope for increase; modern fitted pharmacy, well stocked; long lease; price about £700.

6.—**LONDON, N.W.**—Light Retail and Dispensing Business for quick disposal, in good-class and growing district; returns £1,870; steady increase last three years; low rent; long lease; stock and fixtures worth about £750; price £1,100, or offer.

7.—**LONDON** (Essex Suburb).—Sound working-class Cash Retail Business; present returns average over £20 a week; rent only £36; long lease; comfortable house; price £500, or £225 and stock at valuation.

8.—**SOUTH WALES**.—Good-class Country Business, easily worked, and charmingly situated in small market town; returns over £1,700, increasing; very low expenses; modern house; well-fitted shop, heavily stocked; price, empty valuation, plus £150 goodwill.

9.—**BANKS OF THAMES**.—Cash Drug and Photographic Store; returns last year £1,500; good chance for qualified Chemist; present returns are down through neglect; price £100 for quick sale; stock at valuation.

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(C2) **LONDON, S.E.**—Pharmacy (lock-up) centrally situated, near to leading railway termini; valuable connection with medical students, etc.; returns average upwards of £26 weekly; rent, inclusive of rates, £58 per annum; good reasons for disposal; purchase price £625 or near offer, including stock approximately £375.

(C3) **HOUNSLOW (NEAR)**.—Recently-established lock-up pharmacy with sub post office; present returns £12—£15 weekly and steadily increasing; no near opposition; district rapidly developing; small optical connection for which there is excellent scope for considerable further increase; good reasons for disposing; purchase price £500. Offers considered.

(C4) **LEICESTERSHIRE**.—Lock-up pharmacy on main suburban road of large town; present returns approximately £10 weekly and increasing steadily; excellently adapted to single man requiring a business capable of providing a reasonable living; rent and rates approximately £32 per annum, or freehold could be purchased for £100; price asked for business only, fixtures and goodwill £100, plus stock, £175—£200, or owner would sell business and property for £350 all-in.

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(C6) **CENTRAL MIDLANDS**.—Attractive modern pharmacy (lock-up) situated in busy main thoroughfare; present turnover approximately £2,600 per annum; rent and rates, £110; lease 16 years to run; accountant's figures available.

(C7) **HARLESDEN (NEAR)**.—Medium-class quick counter business with abundant scope for expansion, as the surrounding district is rapidly extending; present returns, £35—£40 per week; net rental, including rates, £22 per annum; owner prepared to negotiate on reasonable terms, as a quick sale is essential.

(C8) **TEES-SIDE**.—Established retail business with good living accommodation, situated in busy main thoroughfare; present returns upwards of £1,400 per annum; rent, £90; purchase price, goodwill £100, plus stock and fixtures at valuation (total approximately £850).

(C9) **CHESHIRE**.—Owing to contemplated retirement, an old-established pharmacy is offered for sale at a reasonable figure; in present hands, over 20 years; present returns upwards of £1,700 per annum; could no doubt be improved upon by the introduction of modernised methods, etc.; living accommodation available; rent, £70 per annum; less sub-let £30; purchase price by negotiation.

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(C11) **YORKSHIRE**.—Good class family and agricultural business with exceptional scope for optics; established about 50 years; returns for last financial year, £1,300; rent, £32 10s. per annum; sub-let £19 10s. per annum; house available near by if required; purchase price for quick sale, £650, including stock and fixtures estimated at £460.

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**BLACKPOOL** (Near).—Opportunity for Chemist or Limited Company to secure Pharmacy in growing district; Kodak; double-fronted corner premises, with living accommodation (nine rooms); must sell for health and family reasons; price for fittings, etc., £350; stock approximately £300; sacrifice £575 the lot; property rent or sell (sale preferred on mortgage); opening Optics, etc.; low rates; other particulars at interview only. 338/14, Office of this Paper.

**BORDER ESSEX.**—Good little Business for Sale, with living accommodation; scope for improvement; doing £1,200 year; owing to ill-health will be sold at bargain price. 338/8, Office of this Paper.

**BRADFORD.**—Old-established Retail Business for disposal, including first-class Freehold Property; splendid living accommodation; well stocked and fitted shop for sale at valuation only; no goodwill asked; very substantial mortgage available; splendid opportunity for right person. Write in first instance "Turner's Park Pharmacy, Ltd.," 9 Oak Lane, Bradford.

**EAST COAST** (One hour from London).—High-class Pharmacy, main road corner shop; well fitted in oak; long lease; moderate rental; stock worth £125; fixtures cost over £300; all at for £350, which means lease and goodwill costs nothing; £100 could remain; a splendid opportunity for a smart business man. 338/36, Office of this Paper.

**KENT.**—Old-established Pharmacy Business, Optical connection, sold in consequence of death of proprietor; main business thoroughfare, close to bus stop and public car park; good dwelling accommodation; average takings last three years £3,496; full investigation; freehold, £3,000; goodwill, fixtures and fittings, £1,000; stock at valuation, approx. £1,000; sound concern. Lee & Son, Business Agents, Ashford, Kent. Tel. 88.

**KENT COAST.**—Exceptional chance, well-established, good-class Family, Retail and Dispensing Business; no immediate opposition; returns £1,750; rent £100; sub-let £104; good lease; attractive well-fitted pharmacy, fully stocked; will accept £1,000, or bare valuation of stock and fixtures for quick sale. Apply "Urgent," 214/652, Office of this Paper.

**LONDON** (S.W. Suburb).—Well-fitted Shop, with living accommodation; long lease at reasonable rent; turnover averages £1,575 per annum under management; should increase considerably under personal control; price £250, plus stock at valuation; part purchase might remain. Preston & Partners, 29 Ludgate Hill, E.C.

**MANCHESTER** (busy suburban).—Liquidator has for immediate Sale; lock-up shop; open 2½ years; average £50 per week, including N.H.I. and Optics; Kodak Agency; can be improved under good management; stock (about £675) and fittings at valuation; rental £75, can be arranged; reasonable offers invited. 337/23, Office of this Paper.

**NEAR LIVERPOOL.**—Well-stocked and fitted Pharmacy in growing middle-class district; private limited company, with Kodak Agency; only recently established; takings average £500-£600 per annum; excellent prospects, as hundreds of houses have yet to be built and building is going on continually; qualified director has to leave Liverpool. 338/37, Office of this Paper.

**The ASSOCIATION of MANUFACTURING CHEMISTS,**

LIMITED

**(Business Agency, Transfer & Valuation Department)****KIMBERLEY HOUSE, and at EXCHANGE CHAMBERS,**  
Holborn Viaduct, LONDON, E.C.1 2 Bixteth St., LIVERPOOL**PARKIN S. BOOTH, Valuer.** Tele.: CITY 1261-2-3-4.**VALUATIONS. SALES OF BUSINESSES. STOCKTAKINGS.***Enquiries Invited.*

**SURREY.**—Retail Cash Business in main road for immediate disposal; shop just refitted in oak; every convenience for quick service; takings approximately £20 weekly, showing steady increase; N.H.I. approximately 150 to 200 monthly; business can easily be run single-handed; accountant's figures are available; lease 21 years at option of 7, 14, 21; good opening for Optics; excellent living accommodation; recently decorated; also very good large dry cellar. 214/647, Office of this Paper.

**BUSINESS,** good London district; profit £400 per annum net; good Photographic trade (Kodak Agency); good N.H.I.; large, well-fitted shop and splendid living accommodation; price approx. £850 for lease, goodwill and saleable stock; stock can be reduced. Further particulars only to those furnishing references. 338/26, Office of this Paper.

**CHEMIST-OPTICIANS,** pleasant town, Western County; excellent opportunity further to develop Optics, at present 10 per cent. of gross turnover; complete records, accounts audited, stock certified; net profit year just concluded £460; average last three years £453; price, all in, £1,550. Further particulars at interview, arranged on receipt of bank reference. 336/38, Office of this Paper.

**FOR** quick disposal, owing to health, will sell my semi-country Business in West Cheshire at £100 less than valuation; that is, £1,100 instead of £1,200, or without Optical Department £875 instead of £975; a splendid and happy and easily worked business; inspection and correspondence invited. Apply 338/16, Office of this Paper.

**MAIL** Order Business for Sale (London) owing to death of proprietor; good Toilet and Medicinal Lines; suit anyone with progressive publicity ideas and £500 capital. Particulars, 337/17, Office of this Paper.

**OLD-ESTABLISHED** Herbalist, Druggist, etc., shop premises in splendid position busy shopping centre, London, N.W.; reasonable rent; lease 10 years; genuine reason for disposal; good living accommodation; price, including stock, fixtures, etc., £2,500; fullest investigation. Further information, Pawley & Malyon, Incorporated Accountants, Finsbury Court, Finsbury Pavement, E.C.2.

**£50, ALL** at, for quick transfer, established Drug Stores, with house attached and immediate vacant possession of rooms; owner taking up appointment and must dispose of at once; this is an exceptional bargain. Call only (letters not answered) for particulars in first instance at 407 Caledonian Road, N.7.

**BUSINESSES WANTED.**

**NORTH LONDON.**—Cash Retail Business, with good N.H.I. Dispensing connection; returns £2,500 up to £5,000; capital waiting. Apply in confidence to Orridge & Co., 56 Ludgate Hill, E.C.4.

**WEST OF ENGLAND.**—Wanted at once, Devon or Cornwall preferred, Coast or very near; price about £2,000; cash waiting. Apply Orridge & Co., 56 Ludgate Hill, E.C.4.

**PREMISES TO LET.**

**CORNER** Shop to Let in Kentish Town; rent £132 per annum inclusive. Apply R. J. Harmon, Ltd., Stuart House, Falkland Road, N.W.5.

**NO PREMIUM.**—Commanding Shop to Let in busy trading centre at Norbury; frontage 22 ft.; very suitable for Chemist; excellent self-contained flat over and space for garage; modern shop front installed; rent £140 per annum. Wates, Ltd., 668 High Road, Streatham. Phone: Pollards 2232.

**PREMISES FOR SALE.**

**FREEHOLD** Shop and Rooms in densely populated district just off East India Dock Road; most suitable for Chemist; price £750. Keys of Wm. Clarkson & Partners, 87 East India Dock Road, E.14.



## APPOINTMENTS.

### COUNTY COUNCIL OF MIDDLESEX.

Applications are invited as follows:—

AT THE HILLINGDON COUNTY HOSPITAL,  
HILLINGDON, UXBIDGE.

**PUPIL IN PHARMACEUTICAL DEPARTMENT.**  
Candidates must hold a Matriculation Certificate which will be accepted by the Pharmaceutical Society of Great Britain, and the officer appointed will be required to sign a three years' Indenture. Remuneration 5s. per week and meals when on duty. The post offers good opportunity for a thorough grounding in Pharmacy and Elementary Bio-chemistry. Apply at once, stating age, particulars of education, certificates held, etc., with copies of recent testimonials, to the Medical Superintendent at the Hospital. (P.A./H/45)

By Order,

ERNEST S. W. HART,  
Clerk of the County Council.

Guildhall,  
Westminster, S.W.1.

## TENDERS INVITED.

### NOTTINGHAMSHIRE COUNTY COUNCIL. TENDERS FOR MEDICAL, SURGICAL AND DENTAL SUPPLIES.

**TENDERS** are invited for the supply of Medical, Surgical and Dental Goods to the several Centres in the County.

Particulars as to description and quantities of goods which it is probable will be required, and Forms of Tender, may be obtained upon application (accompanied by a stamped addressed envelope) to the County Medical Officer, Shire Hall, Nottingham.

Sealed and endorsed tenders should be delivered to the Medical Officer of Health aforesaid on or before the first post on Wednesday, 28th December, 1932.

The County Council does not bind itself to accept the lowest or any tender.

K. TWEDDALE MEABY,

Clerk of the County Council.

Shire Hall,  
Nottingham.  
December, 1932.

## SALE BY AUCTION.

By Order of the Receiver for Debenture Holders, *re* T. Powell, Ltd., in Liquidation.

85 BLACKFRIARS ROAD, LONDON, S.E.1.  
THE STOCK AND FITTINGS

OF A MANUFACTURING CHEMIST.

300 gallons Iso Propyl Alcohol, 200 lbs. Pot. Iodide,  $\frac{1}{2}$  ton Sulphur Precip., 100 lbs. Peppermint Oils, 4 cwt. Spanish Rosemary Oil, 2 $\frac{1}{2}$  cwt. Methyl Heptanone, 3 cwt. Triacetone, 2 cwt. Dill Oil, 3 cwt. Orange Oil, 1 cwt. Cananga Oil, 15 lbs. Newroli Bigarade, Coriander Oil, Civette Natural,  $\frac{1}{2}$  ton Naphthalene Balls, 4 tons Epsom Salts, 1,000 bottles Essential Oils and Essences, 500 Liquid Soap containers, Chemical Apparatus, etc.

### OFFICE FURNITURE:

Four Pedestal Desks, Roll Top Desk, two Typists' Tables, three Fire-resisting Safes, Metal and Oak Filing Cabinets, Wales' Adding Machine, one Noiseless and one Remington Typewriter, Roneo Duplicator, Cyclostyle Addressograph, Cheque Writer, Chemical Scales and Weights, Weighing Machine, Chairs, Tables, Deal Benches and Racks.

FRANK G. BOWEN, LTD.,

Will Sell by Auction, on the Premises as above, on Tuesday, December 20, 1932, at 1 o'clock.

On View day prior and morning of Sale. Catalogues may be had of Messrs. Durrant, Cooper & Hambling, Solicitors, 70-1 Gracechurch Street, E.C.3; of the Receiver, O. Sunderland, Esq., Chartered Accountant, 15 Eastcheap, E.C.3; and of the Auctioneers, 62a Aldersgate Street, and Hare Court, London, E.C.1.

## SITUATIONS OPEN.

### RETAIL (HOME).

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

**BRIGHTON.**—Lady Assistant, capable of managing small shop; tall, good Saleswoman and Window-dresser; no dispensing. Write, giving particulars of experience, copies of recent references, salary required, 336/54, Office of this Paper.

**CRICKLEWOOD BROADWAY, N.W.**—Qualified Branch Manager, married, wanted, first week in January, for good-class Dispensing and Retail business; must be a good Salesman and Window-dresser; age not under 26 years; good living accommodation. Apply, giving age, experience, references, salary expected, photo if possible (to be returned), to T. Bellamy, Pharmaceutical Chemist, Tindal Square, Chelmsford.

**MIDLANDS.**—Qualified for small branch; single-handed; commence January 9, 1933. Apply, stating age and wages required only in application, to 337/12, Office of this Paper.

**ELDERLY**, qualified gentleman required for small country business, Gloucestershire; duties light, hours easy; if Optical qualification position offers scope to open Optical Department on own account; salary must be small for few months, but prospects good; small cash security required. 338/13, Office of this Paper.

**GENTLEMANLY** Junior Assistant required; experience of Organotherapy and Retail Pharmacy not essential, but preferred. Write, stating age, experience, and full particulars, including salary required, Manager, Hormones & Chalones, Ltd., 27 Cavendish Square, W.1.

**JUNIOR** Assistant (male) required for good-class Retail and Dispensing business (London, S.E.); applicant just finished apprenticeship preferred, but not essential. Write, giving full particulars and wages required, to 338/34, Office of this Paper.

**LADY** Assistant; unqualified; good Counter experience. Apply personally, Alter, 13 Park Parade, N. Finchley.

**MANAGER** and Buyer for Drugs, Dispensing and Photographic Department; qualified man used to Retail trade. Apply, with full particulars, experience, age, salary required, and recent photo, Manager, Jarrold & Sons, Ltd., London Street, Norwich.

**M.R. R. WOOLBY BROOKE** requires early in the New Year a tall, unmarried, qualified male Assistant. Applicants, who must preferably have had London experience, are invited to send full particulars by post to "B," 19 Gloucester Road, S.W.7. Letters unanswered after three days respectfully declined.

**TEMPORARY** Assistant wanted at once; prospect of permanency to suitable man; must have had good all-round experience, both Dispensing and Counter. Apply, by letter, with full particulars, Hall, Chemist, Pinner, Middlesex.

**WANTED**, a reliable Junior Assistant capable of taking charge in absence of proprietor. Apply, stating age, experience, salary required, 337/19, Office of this Paper.

**WANTED**, at once, a young, unqualified Assistant (male); must be efficient Dispenser. Write only, giving full particulars, references and salary required. Letters not answered within seven days respectfully declined. Davenport, 36 London Road, Bromley, Kent.

**WANTED**, Junior Assistant; qualified; single. Applications not answered in three days respectfully declined. Apply J. Lancaster & Son, 100 Skinner Lane, Leeds.

### WHOLESALE.

**SCOTLAND.**—Probable vacancy for Resident Representative with own car, delivering when selling reputable firm's Chemists' Confectionery; salary, plus commission on cash; £10 weekly is easily earned by hard worker with ability; goodwill of existing Chemists' connection essential. Apply, giving full details, 213/645, Office of this Paper.

**ASSISTANT** Works Manager required to take charge of Packing, Finishing and Despatch Departments in Toilet Products Works; liberal salary and good prospects of advancement for right man; previous experience essential. 336/37, Office of this Paper.



**L**ONDON.—Wanted, early in the New Year, a young Chemist, Minor qualification, with knowledge of the Retail, for general work in the Laboratories and Office of an old-established Tablet and Pill House; accuracy in detail essential; a good opportunity of obtaining a general knowledge of the wholesale side of the trade; hours 9 to 5.30, Saturdays 1 o'clock. Apply in own handwriting, stating previous experience and salary required. Copies of references only should be sent, unless a stamped addressed envelope is enclosed. Reply "London," 214/649, Office of this Paper.

**CRUDE DRUGS.**—Traveller or Representative required having full knowledge of this trade. Give full details, territory covered, etc., to 358/40, Office of this Paper.

**EXPERIENCED** Salesman and Medical Propagandist, aged 28-40, to call on Chemists, Hospitals and Doctors in London for well-known Pharmaceutical Products. Give age, height, experience, salary required in first letter to Box M.8240, c/o Dawson's, 129 Cannon Street, London, E.C.4.

**JOHN RICHARDSON & CO. (LEICESTER), LTD.**, will shortly require the services of an experienced Representative; liberal remuneration and expenses for a really good man of proved ability. Apply, stating full particulars, to Evington Valley Road, Leicester.

**OLD-ESTABLISHED** London Wholesale Chemists and Manufacturing Druggists (owning a well-known Proprietary) require a Representative with a sound connection in Drugs for the Eastern and Southern Midland Counties; good salary and expenses; no applicants under 30 years of age considered. Full details of trade experience and connection required with all personal references available. Replies to 214/654, Office of this Paper.

**REPRESENTATIVE** required by old-established Sundries House; applicants must have sound connection amongst Chemists and Hairdressers; territory, Midlands and West of England, and be able to provide own car. Full particulars to 214/646, Office of this Paper.

**YOUNG** man required by London Drug House for Costing and Clerical work; one having served a regular apprenticeship preferred. Reply 214/648, Office of this Paper.

## APPRENTICES.

**YOUNG** gentleman requires Apprenticeship with good-class Chemist; tall; well educated; Ealing, Southall or Acton preferred. Apply 60 Church Road, Hanwell, W.7.

## SITUATIONS WANTED.

### RETAIL (HOME).

**A.A.A.A.A.**—FIRST - CLASS Pharmacist desires position anywhere; 23; Square trained; 4 years' experience; undeniable references; honest; hard working; disengaged. Hatfield, 25 Queen Street, Leigh, Lancs.

**A.A.**—QUALIFIED. 25, desires post; good all-round experience; moderate salary; disengaged. Harris, 25 Holmdale Road, N.W.6.

**A.**—QUALIFIED Locum offers services Christmas Holidays; expenses only; recommended; middle-age. "Chemist," 9 Saltecats Road, Bedford Park, W.4.

**A.**—ASSISTANT; unqualified; 24; excellent references; capable of taking charge; Part I student; free January 2. "Cire," "Monksfield," Sandling, near Maidstone.

**A** CAPABLE, all-round Assistant, age 32, desires permanency in good-class pharmacy; first-class experience and references; South or South-West Counties preferred. "W. J.," 44 Slad Road, Stroud, Glos.

**A** PHARMACIST-OPTICIAN, M.P.S., F.B.O.A., F.I.O.O., J.C.Q.O., 20 years' managing experience, London, provinces, desires change; scope; initiative; keen, tactful, business acumen, clever Prescriber, expert Windows, Photography, Agricultural; own Optical Equipment; excellent references; living accommodation preferred; abstainer; free January. 338/29, Office of this Paper.

**A**S Manager; unqualified; up-to-date, all-round ability; proprietor's interest studied; used to living over shop; 7 years last situation as above; now disengaged through death of proprietor; age 38; married; start now or early New Year; moderate salary to be arranged. "Advertiser," 39 Villa Road, Brixton.

**A**SSISTANT; unqualified; 27; disengaged; 11 years' good all-round experience in all branches. "T.," 31 Hampton Street, S.E.17.

**B**RIGHTON OR DISTRICT.—Lady Dispenser desires post (Hall); good all-round experience; moderate salary. 8 Prestonville Road, Brighton.

**C**OMPETENT Assistant (unregistered); 20 years' experience, Sales, Dispensing, Display, City, West End; disengaged. Cullingham, 11 Grafton Square, S.W.4.

**D**ISENGAGED; qualified; first-class and all-round experience; good Dispenser, accustomed heavy Panel work; Locum (any distance); part time, London area. "Statim," 52 Kenninghall Road, Clapton, E.5.

**E**NERGETIC Pharmacist, 22, qualified, possessing initiative, industry and comprehensive experience, desires position, Manager or Assistant; conscientious and enthusiastic worker. 337/11, Office of this Paper.

**EXPERIENCED** Lady Pharmacist (26); disengaged; locum or permanency; Hospital or Retail. Telephone: Ealing 4063. 8 Kerrison Road, W.5.

**EXPERIENCED** Lady Dispenser (Hall), disengaged now, requires work with Chemist or Doctor in London or provinces; £2 10s. weekly. 338/21, Office of this Paper.

**J**UNIOR or Improver; age 19; Dispensing, Counter, Windows and Photography; 3½ years' experience; South preferred; moderate salary. 337/40, Office of this Paper.

**L**EEDS OR DISTRICT.—Competent lady Dispenser (Hall) requires position with Doctor or Chemist; young; energetic; excellent testimonials. 337/5, Office of this Paper.

**M**ANCHESTER DISTRICT.—Unqualified Assistant; 23; evening work and three weeks at Christmas. "Unqualified," 132 Marlborough Road, Higher Broughton.

**M**R. J. REES, M.P.S., of J. & D. G. Rees, Chemists, St. Thomas, Swansea, wishes to recommend his late apprentice, W. J. Harrison (20), who has had 3½ years' general experience as Junior Assistant; London or Bristol preferred; disengaged from January 1. W. J. Harrison, c/o above address.

**P**HARMACIST.—Locum or emergency relief; 45; disengaged; London and provincial experience; any distance. Howell, 20 Working Street, Cardiff.

**P**HARMACIST, age 24, single, well educated, well spoken, seeks position; high-class pharmacy preferred; excellent Dispensing and Counter experience; some knowledge of Optics; reliable references; interview welcomed. 338/33, Office of this Paper.

**Q**UALIFIED; 36; married; Manager or Assistant; first-class Dispensing experience; excellent references. Hardy, 27 Shaftesbury Road, Bath.

**Q**UALIFIED, 23, requires post as Dispenser, Retail, Hospital, Institution; disengaged; experienced; salary £2 10s. Denny, 37 Regent Road, Lowestoft.

**Q**UALIFIED; 22½; Manager, Assistant or Locum; five years' good all-round experience; reliable and conscientious. Massey, Pilsley, Chesterfield.

**S**COTSMAN; unqualified; tall; 19 years' experience; abstainer; whole or part time; thoroughly trustworthy; well recommended. Alexander, 189 Southampton Street, S.E.5.

**S.O.S.** FROM M.P.S.—Will a Bro. find a Bro. M. a post? Every qualification; one crime, middle age; hope almost gone; must sink unless get work to do. "Lodge," 338/30, Office of this Paper.

**£25S.**—UNQUALIFIED (referred Part I); 2½ years' London experience; good Counterman, accurate Dispenser; any locality. "C. M.," 185 Mount Pleasant, Redditch, Worcs.



**CLEAR OUT**—your Old or Damaged Stock of Photo Goods  
*Why keep them any longer? Turn them into CASH.*  
**I GIVE BEST PRICES** for Old Films (damaged, fogged or expired dates); Packet Papers, Cards (any sizes), Old Photo Goods or Cameras, Bromide Papers, Plates (all sizes, all makes). Send any goods in the photo line, I buy all, good or bad. Cash per return. A good price for all Cameras. Send them along.  
**S. E. HACKETT, 23 July Road, Liverpool**

**WHOLESALE.**

2s. for 18 words or less, 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

**ADVERTISER** (qualified Chemist), calling regularly on Medical, Dental and Veterinary Professions, can undertake additional representation; unique opportunities for introducing up-to-date requirements. 338/12, Office of this Paper.

**EDUCATED** young man, 28, requires position as Representative with established firm; thorough knowledge of all branches of trade; good personality; keen; excellent references; car. P.C.B. 58/23, Office of this Paper.

**FIRST-CLASS** energetic Representative, age 33, with sound, live, personal connection amongst the Chemists and Stores, Wholesale and Retail, in the North of England, own car, desires change to progressive house requiring real salesman; in confidence. 339/8, Office of this Paper.

**GENTLEMAN**, 35, keen, ambitious, first-class Retail experience, seeks position as Traveller with reputable house; excellent salesman; highest references; London district; salary and expenses basis; free New Year. 337/21, Office of this Paper.

**GENTLEMAN**, with Pharmaceutical qualification, on the Board of a firm of Manufacturing Chemists, is desirous of joining a progressive firm in the New Year; position held for 12 years. Apply 214/651, Office of this Paper.

**M.P.S.**, experienced representative, desires post with well-known House; extensive connection, Midlands to South Wales; highest references. 338/17, Office of this Paper.

**PILL** and Tablet Maker; Hall qualification; experienced in all branches; disengaged. 337/37, Office of this Paper.

**REPRESENTATIVE**, 36, Public School, now with London firm; 4 years' experience, Doctors and Chemists, desires change; Southern, Western or Midlands districts preferred. Replies treated in strict confidence. 336/25, Office of this Paper.

**REPRESENTATIVE**, first-class connection with Wholesale and Retail Chemists, Hairdressers, Departmental and Co-operative Stores, 'twixt Trent and Tweed, desires change; salary or commission and expenses. "Ambrose," 5 Berkeley View, Leeds, 8.

**REPRESENTATIVE**, 10 years' connection with Wholesale and Manufacturing Chemists, Hairdressers' Sundriesmen, Hospitals and Institutions throughout England and Wales, requires additional commission lines for firms of repute. 337/36, Office of this Paper.

**REPRESENTATIVE**, connection Lancashire, Yorkshire, Cheshire, North Wales, desires change, reputable Drug, Sundries or Proprietary House; Retail experience; car. 338/10, Office of this Paper.

**1933 CHANGES**—Connection of nearly 3,000 Chemists in London and South-Western Counties to good house; 400 new accounts in 12 months; good address; car; salary and expenses basis. "Successful," P.C.B. 58/21, Office of this Paper.

**FOR SALE.**

(Articles to the value of £5-£50.)

**SMALL** Cash Register (made by National) for Sale; supplies total of money in drawer and number of "Paid Out" transactions; keys range from 3d. to 5s. 11½d. Write to T. Edwards, 1 Guildford Road, E.17.

**TABLET-MAKING** Presses (3), Kilian, for making tablets, lozenges, approximately ¾ in. diameter, ½ in. deep. Packeting Machine (1) for same. Apply 214/650, Office of this Paper.

**MISCELLANEOUS.**

10s. for 60 words or less; 1s. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

**A FINE PHARMACY** can now be fitted complete ready for opening from £95 upwards. Old-time shops modernised and brought up to date at lowest prices. Many recent testimonials. Designs, advice and prices free from PHILIP JOSEPHS & SONS, LTD., Pharmacy Fitters for 107 years, 90/92 St. John Street, Clerkenwell, London, E.C.1.

**ATTRACTIVE BARGAINS** in reconditioned Second-hand Chemist Fittings, various sizes and styles, sold singly or in sets. Visit our Showrooms or write your particulars. RUDDUCK & CO., 219/227 Old Street, London, E.C.1.

**CHEMISTS' FITTINGS**—We hold an immense stock of Drug Fittings, Dispensing Screens, Glass Fronted Counters, Perfumery Cases, Nests of Drawers, Wall Cases, Silent Salesmen, Upright and Flat Counter Cases, Plate-glass Counters, Cash Tills, Display Stands and Glass Shelves, etc., ready for immediate delivery at competitive prices. Write or call for List. F. MAUND & E. BERG (SHOWCASES), LTD., 175/9 and 336 Old Street, London, E.C.1.

**CHEMISTS' FITTINGS**, direct from manufacturer; soundly constructed in oak and mahogany; 8 ft. Drug Run, £18; 6 ft. Dispensing Screen, £14; 6 ft. Showcase Fronted Counter, £8 5s.; 6 ft. Wall Case, £11; 6 ft. Glass Counter, £8 15s.; Counter Case 30 x 24 x 18, £2 5s., etc. Send now for photographs, or call and inspect. MYERS, Complete Chemist Fitters, 134a Kingsland Road, E.2, near Shoreditch Church. Bishopsgate 2524.

**LIMITED COMPANIES REGISTERED**—I have now been engaged in this work over 20 years, so you may rely that my experience in Chemist and other Companies (I take all trades) is hard to beat. Most reasonable and inclusive fee. Advice free. A. B. SLACK, 721 Princess Road, West Didsbury, Manchester.

**MAHOGANY FITTINGS**—12 ft. complete Drug Fitting, 9 ft. Wall Case, 10 ft. Wall Case, 10 ft. Serving Counter, glass case front; 6 ft. Mirror centre Dispensing Screen; 5 ft. all-glass Counter; all-glass Salesman, 5 ft. 10 in. high, 2 ft. x 23 in., 3 glass shelves; Wall Case, 7 ft. high, 4 ft. 6 in. wide, 12 in. deep, 4 wood shelves; two 4 ft. nest Counter Drawers. All bargains. Over 40 years' experience. GEORGE COOK, The Working Shopfitter, 27 Maclesfield Street, City Road, E.C.1. Phone: Clerkenwell 5371.

**£?—COMPLETE CHEMIST FITTINGS** at any price you wish to pay. We have erected in our showroom a Complete Chemist Shop with Metal Shop Front, Window Backs, Correct Window Lighting Signs and Modern Interior Fittings. Apply for Lists. D. MATTHEWS & SON, LTD., "The Liverpool Shop Fitters," 14 and 16 Manchester Street, Liverpool. Est. 1848.

**EXCHANGE COLUMN.****FOR DISPOSAL.**

(Articles up to the value of £5.)

**PERSONAL WEIGHING MACHINE**, good condition, 35s. "Chemist," Hurst Hill, near Bilston.

**SAFE FOR SALE**, commodious, size 4 ft. high, 3 ft. wide, 21½ in. deep, in City (E.C.3); no reasonable offer refused. 214/653, Office of this Paper.

**STUDENTS' BOOKS**, Parts I and II. Also set of Materia Medica specimens complete. "S.," 17 Nelson Crescent, West Cliff, Ramsgate.

**WANTED.**

**STEELYARD WEIGHING MACHINE**, similar to Maw's 8/5305. Hubbert, Woodhall Spa.

**AUTOMATIC AUTOMATIC MACHINE** or similar make; state price. Clegg, Chemist, Weymouth.

**DISPENSING SCALES**, also Personal Weighing Machine. "S.," 17 Nelson Crescent, West Cliff, Ramsgate.

**EMULSIFIER WANTED**, about 5 gallons capacity, preferably power use; good working condition. State make, age, and lowest price. Clayton & Jowett, Ltd., Liverpool.